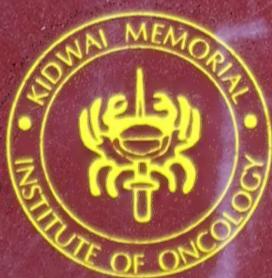


CANCER CERVIX

PREVENTION AND EARLY DETECTION

**A Training Manual for
Primary Health Care Personnel**

Elizabeth Vallikad
Vijay K. Ahuja
U.D. Bafna
K. Uma Devi



**DEPARTMENT OF GYNAECOLOGIC ONCOLOGY
KIDWAI MEMORIAL INSTITUTE OF ONCOLOGY
Bangalore India**

The Kidwai Memorial Institute of Oncology, Bangalore, India, was created in 1973 to be a referral hospital (for the treatment of cancer patients) within the health infrastructure of the State of Karnataka. The hospital became an autonomous institution within the Department of Health and Family Welfare of the Government of Karnataka in 1980, and has since been recognised as one of the Regional Cancer Centres of India.

As a comprehensive cancer centre, the Kidwai Memorial Institute of Oncology is involved in activities such as promotion of health (cancer) awareness, prevention and early detection of cancer besides of course, investigation, diagnosis, management and pain relief of patients with cancer. The institution has two cancer registries – a hospital based registry and a population based registry for patients from the Bangalore Urban Agglomeration.

The centre is also involved in the task of generating manpower resources for various facets of the field of oncology and thus has a variety of training programmes for students at the undergraduate, graduate, postgraduate, sub-specialty and doctoral levels.

The Department of Gynaecologic Oncology is one of the departments that was created in 1973 and over the last two decades has been involved in the management of women with gynaecological cancers. The present initiative is a product of the collective experience of the staff working in the department.

CANCER CERVIX PREVENTION AND EARLY DETECTION

**A TRAINING MANUAL FOR
PRIMARY HEALTH CARE PERSONNEL**

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Note: The authors have exerted every effort to ensure that the drug selection and dosage indicated in this manual are in accordance with the current recommendations for clinical practice at the time of publication. However in view of the constant changes that occur in relation to drug therapy schedules, indications, contraindications and reactions, the prescribing medical officer is urged to refer to the manufacturer's information leaflet accompanying such pharmaceutical preparations.

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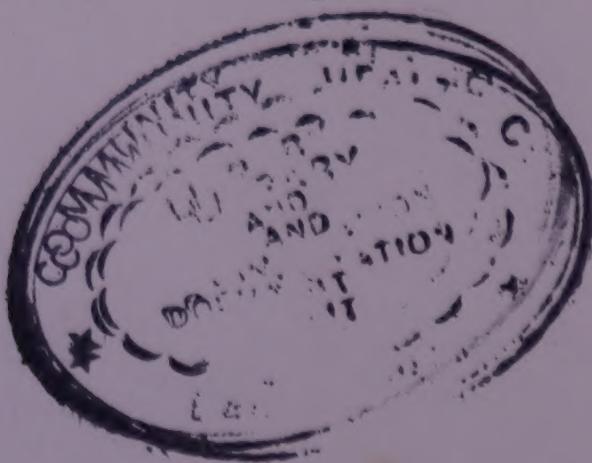
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DEDICATED TO
THE MANY WOMEN
WHO HAVE BEEN
VICTIMS OF CANCER CERVIX

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FOREWORD

Cancer cervix is a major health problem for women in developing countries. Four out of five women with cervical cancer are in the developing countries, and unlike in the developed countries, only the exceptional few have access to the road to cure.

The most pragmatic and realistic way to decrease mortality due to this disease is to empower women with knowledge about cancer of the cervix. They should not only be made aware about the early warning signals of this disease, but must also be given the knowledge that early detection will result in cure. These results however, can be achieved only if health professionals can act adequately and basic standardized therapies are available.

For years to come, adequate coverage by cytological screening will not be available in the developing countries. We know that in the Nordic countries, before any cytology was available, through the above approaches, there was a major decrease in mortality by the disease.

Primary Health Care Workers will be absolutely essential for the control of cervical cancer in developing countries. We trust that this manual, based on several years of pioneering efforts and experience (at the Department of Gynaecologic Oncology at the Kidwal Memorial Institute of Oncology,) is an important and essential step towards achieving this goal. It will serve as a very useful tool to empower the first level health care workers and other members of the health infrastructure, with the knowledge and understanding to combat the disease.

Jan Stjernswärd. MD, PhD, FRCP Ed.
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PREFACE

The Kidwai Memorial Institute of Oncology was started in 1973. The Department of Gynaecologic Oncology was also created at the same time and was involved in the investigation, diagnosis, management and follow-up of patients with gynaecologic malignancies.

A review of the records of 7846 patients registered between 1980 and 1986, for treatment of gynaecologic malignancies, revealed that 88.47% presented with cancer cervix. The overwhelming majority (97%) of these patients presented with disease extending beyond the cervix (69.3 % with Stage IIIB) and majority were aged between 35 and 64 years (83.6 %). The important reasons for patient delay were ignorance about the significance of the symptoms of cancer cervix (57.6 %) and inadequate advice by medical personnel from whom they had sought assistance (33.7%).

These facts were presented in 1986, at the II Biennial conference of the Indian Society of Oncology. Dr. J. Stjernsward, Chief, Cancer Unit, World Health Organisation, who was present at the session, indicated the cancer policy implications of our observations. He emphasised on the urgent need to initiate measures for control of this disease and suggested that attempts be made to study different strategies that could be implemented to downstage the disease with which women present for treatment in this country, till such time that an organised cytology screening programme could be introduced.

Three basic requirements that would be necessary to implement measures of control are :— creation in both women and health personnel, awareness about the symptoms of the disease and the possibility of obtaining satisfactory treatment results if detection and therapy of early disease is undertaken ; availability of adequately trained health personnel; availability of facilities for investigations, diagnosis and therapy.

A research proposal was developed and submitted in 1987 to the Indian Council of Medical Research, seeking financial support for the same. The support came in 1991 - for the project - "The Assessment of the Feasibility of the Control of Cervical Cancer" from the Indian Council of Medical Research, New Delhi and for the project - "Intervention for Downstaging Cancer Cervix in the Indian Situation" from the World Health Organisation, through the Ministry of Health, Government of India. These two studies were developed to assess four different strategies involving the personnel of the existing health infrastructure (especially the female Primary Health Worker - the most peripheral probing arm of the health infrastructure) in the prevention and early detection of cancer cervix, among women living in the areas covered by four Primary Health Centres. A fifth area served as the control zone. The activities undertaken were:

Area 1. : Health education, visual inspection and cytology by the lady Junior Health Visitor and appropriate referral to the Primary Health Centre

Area 2. : Health Education and visual inspection by the lady Junior Health Visitor and appropriate referral to the Primary Health Centre

Area 3. : Health education and referral to the Primary Health Centre by the lady Junior Health Visitor with visual inspection and cytology by the lady Medical Officer

Area 4. : Health education and referral to the Primary Health Centre by the Anganwadi Worker with visual inspection by the lady Medical Officer

The success of the strategies depended upon the level of awareness of the members of the health care delivery system. Every attempt was

made to make available to them knowledge about various aspects of the disease in order to ensure that they were adequately equipped to respond to queries that arise in the field situation.

During the preliminary phase of the projects, a teaching aid was developed for use by these health personnel to create awareness about cancer cervix in women and their spouses. Kannada and English versions were made available. Six manuals were developed to train and serve as reference material for the personnel involved in each of the above areas, including those directed towards the male Junior Health Visitors and the Medical Officers at the Primary Health Centres. These manuals were used to train Junior Health Visitors - female (46), male (13), Senior Health Visitors - female (8), male (1), others at the Primary Health Centre (4), Anganwadi supervisors (3), Anganwadi workers (29) and Medical officers (15).

The period of training consisted of :- one day in the case of personnel involved only in imparting health education ; and two days in the case of personnel who were in addition involved also in the examination of women. The female Primary Health Care Workers - the lady Junior Health Visitor - involved in the activity of examining women to detect cancer cervix, have already been trained in the technique of performing the per speculum examination in order to insert the intrauterine contraceptive device.

The responses of the trainees during the period of training convinced us of their ability to make this programme a success and indicated that the training material and programme that had been developed was adequate for this purpose. The capacity of the lady Junior Health Visitor to identify a malignant cervix by visual inspection in the field situation was also found to be satisfactory.

Thus, as activities progressed, there was every reason to believe that the technical training imparted was adequate and that the manuals were useful. However, in view of the

considerable overlap in the text, illustrations and photographs of the six separate manuals, the convenience of a single publication encompassing all the activities was considered to be essential. The teaching aid remained separate.

The manuals were primarily designed in the nature of questions and answers in order to facilitate easy communication with those for whom they were developed. This publication adheres to the same format and about a hundred questions have been devised with the intention that the answers to these questions will serve the major purpose of this manual.

This manual is meant to train health personnel at the periphery, and has been organised into four sections according to the activities that would be undertaken by them. Accordingly, those imparting health awareness would need only Section I, those involved in visual inspection of the cervix would need Sections I and II, personnel involved in cyto-screening would need Sections I, II and III, while Medical Officers involved in this activity may find all four sections useful.

All this must not be taken to mean that the programme of prevention has been completely successful. Unexpected problems have arisen. While the response of the target women who were approached by the health personnel have been satisfactory, the health infrastructure itself has perceived this programme as an extra burden on their existing work load. Our health infrastructure is the only network through which preventive health care concepts can be imparted to rural women and hence every effort has to be undertaken to overcome the hurdles that have arisen.

September 1994
Professor and Head
Department of Gynaecologic Oncology
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INTRODUCTION

Cancer is popularly believed to be a fatal disease that cannot be prevented. However it is internationally accepted that cancer of the cervix is not just a preventable disease but also one which if detected early and adequately treated, yields satisfactory results. When a patient presents with advanced disease, therapy is planned and implemented with the intention to cure or control the disease. However, if this is not possible, then the intention of therapy would be palliative care and pain relief. Thus, the aim of therapy would be to ensure that patients will have the best possible quality of life within the reality of their domestic circumstances.

Cancer cervix is the most common cancer affecting Indian women with more than 9 % of the world's cervical cancer occurring in India. It is estimated that by the turn of the next century, every year, more than 100,000 Indian women will develop this disease and hence attempts at control now become mandatory.

control.

The successful control of cancer cervix, like any disease, starts with prevention, and prevention of any disease is generally conceived of at three levels - primary, secondary and tertiary

Primary Prevention may be defined as action that is taken so as to prevent the development and thus, occurrence of a disease. This approach is based on the elimination of the risk factors of the disease, and in the case of cancer cervix, would mean prevention of the sexual transmission of the possible etiological agent by modification in the attitude to sexual practices such as stress on

— monogamous and monoandrous sexual relationships

OR

— the practice of safe sex - use of the condom

Such strategies for Primary Prevention would be difficult to implement as they would need to influence the life styles of the concerned individuals and their spouses / partners, and this may even be considered as imposition of the values of another.

The development of a vaccine for the prevention of this disease would perhaps contribute a great deal towards the primary prevention of this cancer, but a vaccine is still not yet available.

Secondary Prevention may be defined as action that is taken to detect the disease at its earliest phase so that appropriate therapy can prevent its progression and complications. This level consists of early diagnosis i.e. the screening tests and case finding programmes and in the case of cancer cervix would mean implementation of organised screen programmes – using the Pap Smear, as cytology is the internationally accepted method of prevention. Women with dysplasia or carcinoma-in-situ detected by cytology and appropriately managed can be virtually cured. Organised screening programmes have been successful in reducing the incidence and mortality rates in many of the developed countries. The frequency at which the test should be repeated and the age-group in which it should be performed has been the subject of much discussion. It is now agreed that an organised screening programme in which women aged between 35 and 64 years have cytoscreening performed once in five years, along with the availability of adequate facilities for investigation, diagnosis and therapy of the abnormalities so detected, would contribute markedly towards the control of this disease.

Indian leaders in the field of cancer prevention have however observed that even with a twelve-fold increase of cytoscreeners, only 25 % of women can be covered by a screening programme by the year 2000 AD. Thus the financial implications of the implementation of a strategy based on cytoscreening precludes its adoption on a national basis. Under these circumstances the role of a single smear at the age of 45 years, at which age the name of the married female is struck off the "eligible couple" list (eligible for population control measures) needs assessment. Unless our cancer policy is thoroughly overhauled and financial allocations reworked, implementation of an adequate strategy to meet the problems of the next century would be extremely difficult.

Visual Inspection of the Cervix is a form of secondary prevention that seeks to detect the disease at an early stage so as to achieve better

results of therapy and prevent death from the disease. Even though this strategy cannot be compared with that of cytoscreening - the internationally accepted ideal - if it is introduced, it would serve to pave the way for the introduction and implementation of cytoscreening as and when financial circumstances permit. The frequency at which this test is required to be repeated is still unknown. However it may well be presumed that a policy of an annual visual inspection would contribute towards not only early detection, but also to the dissemination of information and knowledge that cancer cervix is a preventable cancer and that methods of prevention are known and are available in this country.

Tertiary Prevention consists of an intervention to reduce the suffering caused by a disease that has already developed, and minimise the sequelae and complications – both – of the disease and treatment. It also consists of assisting the patient to adjust to a condition that may be controlled for a period of time but not permanently cured.

Hence, in the present Indian situation, the need is to implement strategies to ensure that women seek treatment with disease still in the early stages, and such efforts would have to precede the introduction of prevention by cytoscreening. Irrespective of the strategy that is adopted, the existing health infrastructure is the only network that has access to rural women and therefore will be suitable for this task on national basis.

The success of any approach for prevention, or early detection of cancer cervix will thus depend on the **motivation** of the concerned health personnel. The compliance of rural women, to cooperate in an effort at preventive health care, will depend – both, on their **level of awareness** and also their **confidence** in the health infrastructure. The outcome will also depend on the **cooperation** and **support** extended to - both, the personnel of the health infrastructure and the women they refer - by the institutions that serve as centers of referral for early detection, diagnosis and therapy.

CANCER CERVIX PREVENTION AND EARLY DETECTION

This Section deals mainly with information about cancer of the cervix and is directed towards health personnel such as the Junior Health Visitor (male and female), Anganwadi worker, Block Health Educator and others who are involved in imparting health awareness to rural women (and their husbands/families) and convincing them of the need to undergo the test for prevention and early detection of cancer cervix.

Most Indian women who develop cancer cervix are from villages and come for treatment with advanced cancer because they are unaware of the significance of the symptoms of the disease. The treatment of advanced disease yields poor results. The tragedy is that though Medical Science has advanced sufficiently to yield good treatment results with early detection and appropriate treatment, the benefits of the advances – in both preventive and curative medicine – are not available to our women.

Hence a programme for early detection of this disease is urgently required. Such a programme can succeed only if it is directed towards rural women and if there is participation of the entire medical community - from the most peripheral rural health workers to the urban cancer specialists.

The concept of prevention and early detection of cancer cervix will be new to Indian women. Repeated and consistent efforts will have to be made to convince them of the need to seek facilities for prevention or early detection of this disease. Personnel involved in imparting health awareness have an important role in conveying this message. They will also need to have an

extraordinary capacity to sustain motivation to continue doing what may appear to be a thankless task and which will yield results only in the distant future. Special efforts will have to be made to ensure that the “motivation” instilled at the time of training is sustained.

The task will consist of imparting awareness and ensuring that women seek facilities for prevention / early detection available at accessible centres and carry out the instructions that may be given at such centres e.g. compliance for referral to a centre with facilities for further investigations and treatment.

Every effort has been made in this section of the manual to simplify the concept of prevention and early detection of cancer cervix. The section also attempts to answer questions that health personnel, or the women they contact, may have. The special role of the **male health personnel** needs emphasis. The influence that they can exert on mothers-in-law, fathers-in-law, husbands, sons, sons-in-law and nephews etc. can be invaluable in achieving compliance for examination, referral, treatment and follow-up.

What is disease ?

The body consists of tiny parts called cells. Cells can only be seen with the help of a microscope. Disease occurs when the functions of many such cells are altered.



Fig. No. 1. Normal Cell

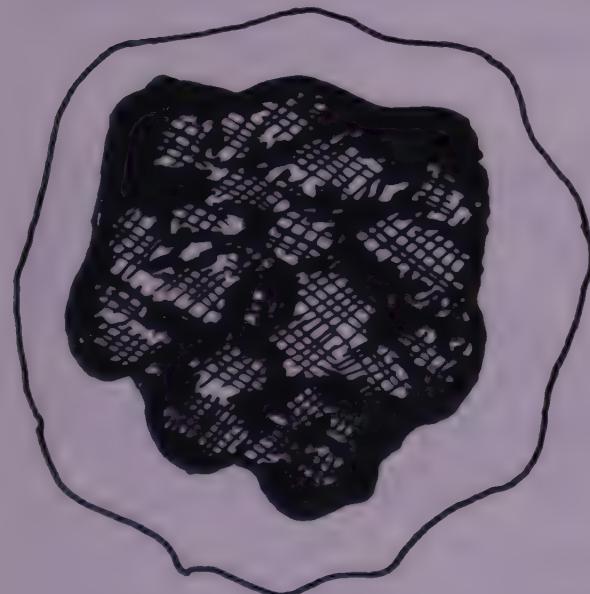


Fig. No. 2. Abnormal Cell

nant (cancer). A benign tumour remains localised and does not usually spread. A malignant tumour destroys normal cells and spreads to other parts of the body. This is cancer and it results in pain, suffering and finally death.

Who can get cancer?

Anybody at any age can get cancer in any part of the body.

Which is the most common cancer affecting Indian women?

Cancer cervix is the most common cancer affecting Indian women.

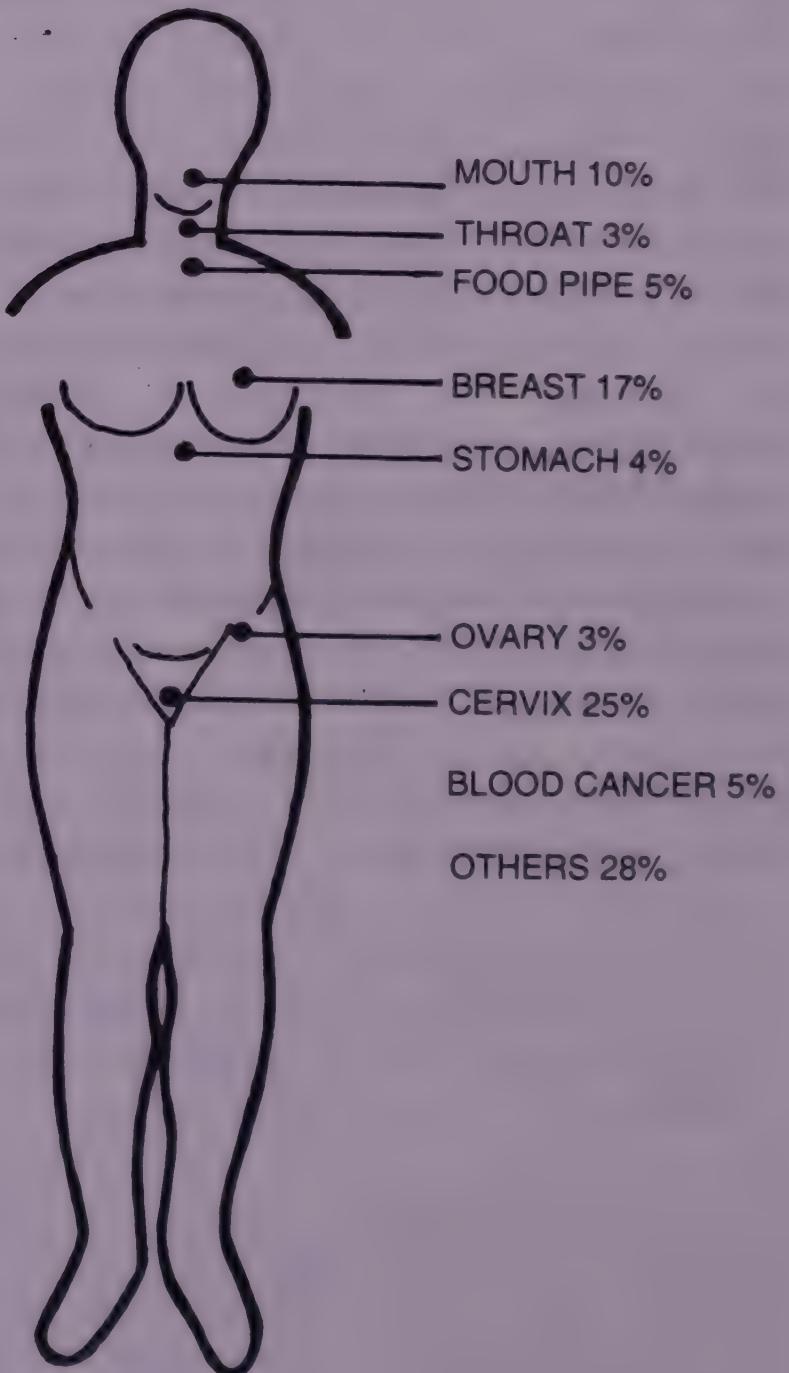


Fig. No. 3. Sitewise distribution of cancer in Indian females

What is cancer?

Normal cells (Fig. No. 1) grow and multiply in an orderly way so as to replace worn-out or injured cells. Sometimes a cell can become abnormal (Fig. No. 2) and begin to grow and multiply abnormally resulting in a tumour or new growth. This tumour can be innocent (benign) or malig-

What is the cervix?

The cervix is the lower-most part of the uterus that projects into the vaginal canal. It has an opening which forms the mouth of the uterus.

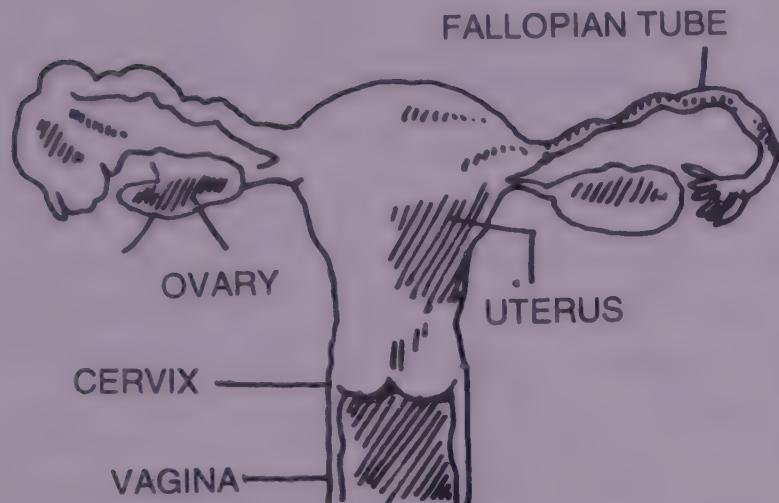


Fig. No. 4. Female Reproductive Organs

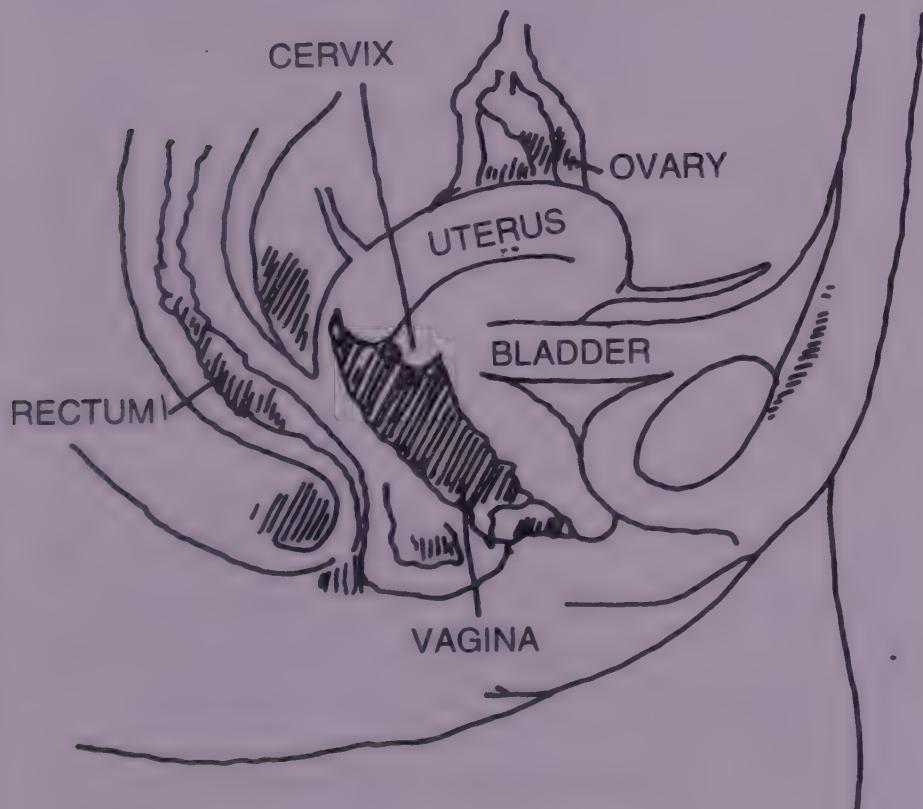


Fig. No. 5. Side view of the Female Pelvis

What is normal vaginal discharge?

The normal cervix produces some amount of clear, white mucoid discharge midway between two menstrual periods, and also for a few days immediately before and after a menstrual period. This is called normal vaginal discharge.

What are the common diseases that can affect the cervix?

The cervix can be affected by:

1. infection
2. tumours – both benign and malignant.

What is the most common symptom of a diseased cervix?

The most common symptom is abnormal vaginal discharge.

What is abnormal vaginal discharge?

Vaginal discharge is considered to be abnormal when it is:

profuse / copious
continuous
associated with itching around the vaginal opening
altered in colour such as brown, yellow, green etc.
altered in consistency - thick and curd-like
– watery
– frothy

blood-tinged
malodorous

What is cancer cervix?

Cancer cervix is a disease where the cells of the cervix become abnormal, begin to grow and multiply abnormally, destroying other normal cells and gradually the cervix itself.

How does it start?

Cancer cervix starts as an abnormal change in the cells of the cervix. These abnormal changes can be seen only with the help of a microscope. The changes may not produce any symptoms and may progress to cancer if not detected and treated.

Which women are likely to get cancer cervix?

Any woman can get cancer cervix but it occurs more often in women :

- with multiple sexual partners
- whose husbands have multiple sexual partners
- with early onset of sexual activity
- with poor genital hygiene

What causes cancer cervix?

The exact cause is still not known. A virus called the Human Papilloma virus may be one of the causes. Research is in progress to find the cause of cancer cervix.

Can cancer cervix spread from one person to another by contact — for example by touching, washing clothes together, using the same utensils etc.?

No, cancer cervix is not a contagious disease.

Does cancer cervix run in families?

No, it does not run in families. It is not hereditary.

What are the symptoms of cancer cervix?

- **Abnormal vaginal discharge.**
 - continuous, profuse, foul smelling and blood tinged.
- **Abnormal vaginal bleeding**
 - post-coital, inter-menstrual, menorrhagia or post-menopausal
- **Aches**
 - back, thighs, legs or lower abdomen
- **Appetite and weight loss**

What happens to a woman who develops cancer cervix ?

Once cancer cervix develops, and it is left untreated:

- It first begins to destroy the other normal cells of the cervix - this may not be visible to the naked eye. There may be no symptoms. Adequate treatment at this stage can result in a cure.
- Otherwise, gradually a nodule, growth or ulcer develops which can be easily seen. Now symptoms begin to appear. Adequate treatment can still yield good results.
- The nodule, growth or ulcer continues to grow if not treated it. Once it has extended beyond the cervix, it is no longer considered as an early stage of the disease. Treatment at this stage does not always result in a long term cure.
- The disease continues to destroy other normal structures and spreads to distant parts of the body, affecting their functions, finally causing pain, suffering and death.

Can death due to cancer cervix be prevented?

Yes, death due to cancer cervix can be prevented. If women undergo the test to detect the disease while it is still in the early stages and avail themselves of appropriate treatment.

How can the disease be detected early ?

As the cervix can be easily seen, a simple painless test can be done to detect the disease early.

What happens in women who do not undergo such a test ?

The earliest abnormal change, if present, can progress to cancer in women who do not undergo such a test and avail of appropriate treatment.

What is the age at which most Indian women get cancer cervix ?

Cancer cervix is mainly seen in Indian women aged between 35 and 64 years.

When do Indian women seek treatment for cancer cervix?

Most Indian women come to the hospital with advanced cancer cervix. Very few come with early disease.

Why do Indian women come to the hospital with advanced disease?

Most Indian women are unaware of

- the disease
- its symptoms
- its prevention
- its early detection and treatment

and hence come to the hospital with advanced disease.

What can be done to prevent this disease in Indian women ?

Indian women should be made aware of :

1. Cancer cervix
2. The symptoms of the disease
3. The importance of hygiene
 - personal hygiene i.e. personal cleanliness
 - genital hygiene i.e. regular cleansing of the genitalia
 - menstrual hygiene i.e. use of fresh, clean sanitary pads, towel/napkin or cloth
4. The availability of tests for early detection of the disease
5. The importance of safe sex
 - use of the condom
 - the need to avoid multiple partners

What are the tests for early detection of cancer cervix ?

The tests for early detection of cancer cervix are:

1. Visual Inspection of the cervix
2. Pap Smear

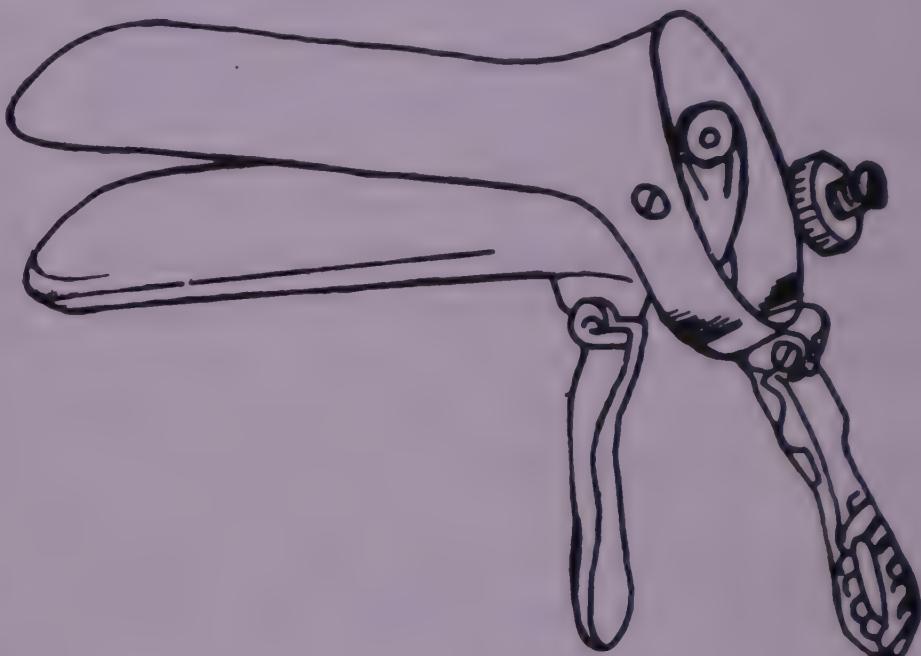


Fig. No.6. Speculum used to visualise the cervix

What is Visual Inspection of the cervix ?

Visual inspection of the cervix consists of a naked eye evaluation of the cervix to detect cancer. The appearance of the cervix is classified as normal, abnormal or malignant. This is the only test that can be undertaken if facilities for pap smear are not available.

How can the cervix be seen ?

After passing urine the woman is made to lie on her back with her legs apart and bent at the knees. A sterile surgical instrument called the speculum as indicated in Fig. No.6 is introduced gently into the vagina, and with sufficient illumination the cervix can be visualised.

What is the Pap smear?

Pap smear is a test which detects the early abnormal changes in the cells of the cervix before these changes progress into cancer.

How is it done?

While visual inspection of the cervix is being done, a scraping of the cervix is taken and spread on a special piece of glass called slide. This slide is sent to the cytology laboratory where it is treated with chemicals and examined under the microscope to detect any early abnormal changes in the cells of the cervix.

Who should undergo Visual inspection or Pap smear for early detection ?

All women aged between 35 and 64 years should undergo visual inspection of the cervix annually. If facilities are available, then they must have a pap smear once in five years. The male health worker must impress upon the males in the community, of the importance of ensuring that the women in their families undergo this test.

Who can do the tests?

Any primary health centre doctor or health worker who has been trained can do the tests.

How long will it take to perform the tests ?

Only a few minutes are required to do the tests.

Do the tests have any side effects?

No, the tests do not have any side effects.

Do the tests interfere with marital relations?

No, the tests do not interfere with marital relations.

Will the tests prevent pregnancy ?

No, the tests will not prevent pregnancy.

Will the tests be painful ?

No, if done gently and carefully the tests will not be painful.

Do the tests cause bleeding?

No, the tests do not usually cause bleeding.

Will the tests cause infection ?

No, if the tests are done with sterile instruments, there will be no infection.

Will the tests cause cancer ?

No the tests will not cause cancer.

When should the tests be avoided ?

The tests should not be done :

- during a menstrual period.
- in the presence of any medication in the vagina.

The specific contraindications to taking the pap smear are discussed on page 30.

When should the tests be done ?

Ideally, the tests should be done one week after the cessation of a menstrual period, while in postmenopausal women it can be done at any time.

What should be done if no abnormality is detected ?

When the tests do not indicate any abnormality then they must be repeated as per the advice of the doctor – usually visual inspection should be repeated annually and the pap smear should be repeated once in five years.

What should be done if the tests indicate an abnormality ?

The woman needs further investigation and appropriate treatment as advised by the doctor.

What should be done if the tests reveal the presence of cancer ?

The presence of cancer should be confirmed by a biopsy of the growth or ulcer on the cervix. However this should be done in a hospital with facilities for treatment.

Does treatment of cancer require a cancer specialist's care ?

Yes, treatment of cancer requires a cancer specialist's care.

What is the treatment for cancer cervix ?

The treatment is either surgery, radiotherapy or combinations of both depending upon the stage of the disease.

Where is the treatment possible ?

The treatment is possible in a hospital where such facilities are available.

How can cancer cervix be controlled in India?

The most effective way to control cancer cervix in India is through:

- creating awareness about the disease
- early detection activities in women aged between 35 and 64 years
- timely treatment.

How can this be achieved ?

This can be achieved with a good network of medical personnel, who will take the message and the programme of prevention and early detection into the villages.

VISUAL INSPECTION OF THE CERVIX

This Section is meant for health personnel such as the Junior Health Visitor (female), Lady Health Visitor and the Medical Officers who will impart health awareness to the rural community (Section I) and in addition perform visual inspection of the cervix in women and refer appropriately.

Visual inspection of the cervix consists of a naked eye evaluation of the appearance of the cervix, to detect the presence of cancer. The aim is to identify and classify the appearance of the cervix into :

- normal and variations of the normal;
- abnormal variations that are not suggestive of malignancy;
- malignant.

Very very early malignancy, that may not alter the normal appearance of the cervix, will not be identified. There is also the possibility that very early malignancy - which may give the cervix the appearance of an abnormal variation - may not be recognised. Hence every woman with an abnormal cervix would ideally require specialist medical attention. However in order to minimise such errors, in the given circumstances it becomes necessary to arbitrarily perform visual inspection annually. This will go a long way to prevent the development of a bad reputation for visual inspection - as a test that failed to detect cancer in a given situation. This is important as for years to come **Visual Inspection of the cervix** may be the only test that may be

available as it may not be possible to easily make available facilities for the pap smear.

Hence an annual visual inspection is a simple test for the early detection of cancer cervix, which will also contribute to introducing into the minds of both, the deliverer of preventive health care and the recipient – the concept of early detection – that early detection is possible and that treatment of early disease has distinct advantages over therapy of advanced disease. Thus, a simple but vital technique – **the Visual inspection** – will also pave the way for the subsequent introduction of the pap smear.

Junior Health Visitors can be trained to do this test - they are already trained to insert the intrauterine contraceptive device and hence are experienced in the technique of the per speculum examination. This is especially important as the doctor-population ratio in rural India is far from ideal. The role of the health worker in the early detection of oral cancer has already been proved without doubt. Besides the simple facilities that would be required by the health infrastructure to implement visual inspection on a widespread basis, the additional factor required would be – a great deal of **MOTIVATION**.

What are the requirements necessary to do visual inspection ?

The requirements for visual inspection are:

1. A place with privacy
2. Sufficient illumination
3. A sterile speculum
4. A pair of sterile gloves

How can the gloves and speculum be sterilised?

Every attempt should be made to use only autoclaved gloves and speculae. However if that is not possible then the following method could be adopted.

Put clean water to boil in a clean vessel with a lid. Wash the speculum and gloves - in clean water. The gloves must be turned both ways while washing in order to ensure cleanliness. After the water has boiled, the speculum must be placed in the boiling water and the lid of the vessel closed. A Cheatle's forceps must also be placed in it so that the lower half of the instrument is immersed in the boiling water. **They must remain in boiling water for 10 minutes.** Then, remove the lid of the vessel and place it upside down so that the surface that was exposed to the boiling water faces upwards. Remove the speculum using the Cheatle's forceps and place it on the inverted surface of the lid. Now place the washed pair of gloves in the boiling water so that they are completely immersed in it for a minute. Then remove and place them along with the speculum on the inverted surface of the lid of the vessel. Allow to cool to body temperature before use.

How is visual inspection done ?

Visual inspection is done in the following manner :

1. The woman should lie on her back with her legs bent after she has passed urine
2. Using sterile gloves, a sterile speculum is gently introduced into the vagina and the cervix is visualised with sufficient illumination.

While attempting to do this test, if

- the speculum cannot be introduced
- the cervix cannot be visualised and there is no history of surgical removal of the uterus:

then refer the woman for examination to a doctor.

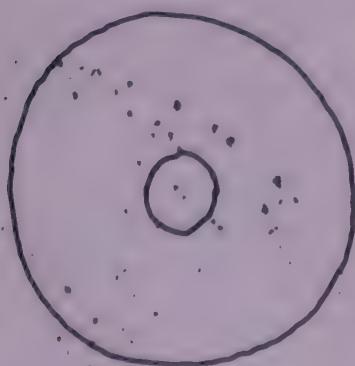
How does the normal cervix appear ?

The normal cervix is :

colour	- pink. In post-menopausal women it is very pale pink
shape	- round
surface	- smooth.
size	- varies. smaller in size and may not project into the vagina in postmenopausal women.
discharge	- clear/white and mucoid.
shape of the opening or external os	- varies with parity and becomes slit-like, or irregular, after a vaginal delivery.

The cervix does not normally bleed on touch

The variations in size that may be encountered are depicted diagrammatically in Figure No. 7



Nulliparous



Multiparous



Postmenopausal

Fig. No. 8
Normal Cervix

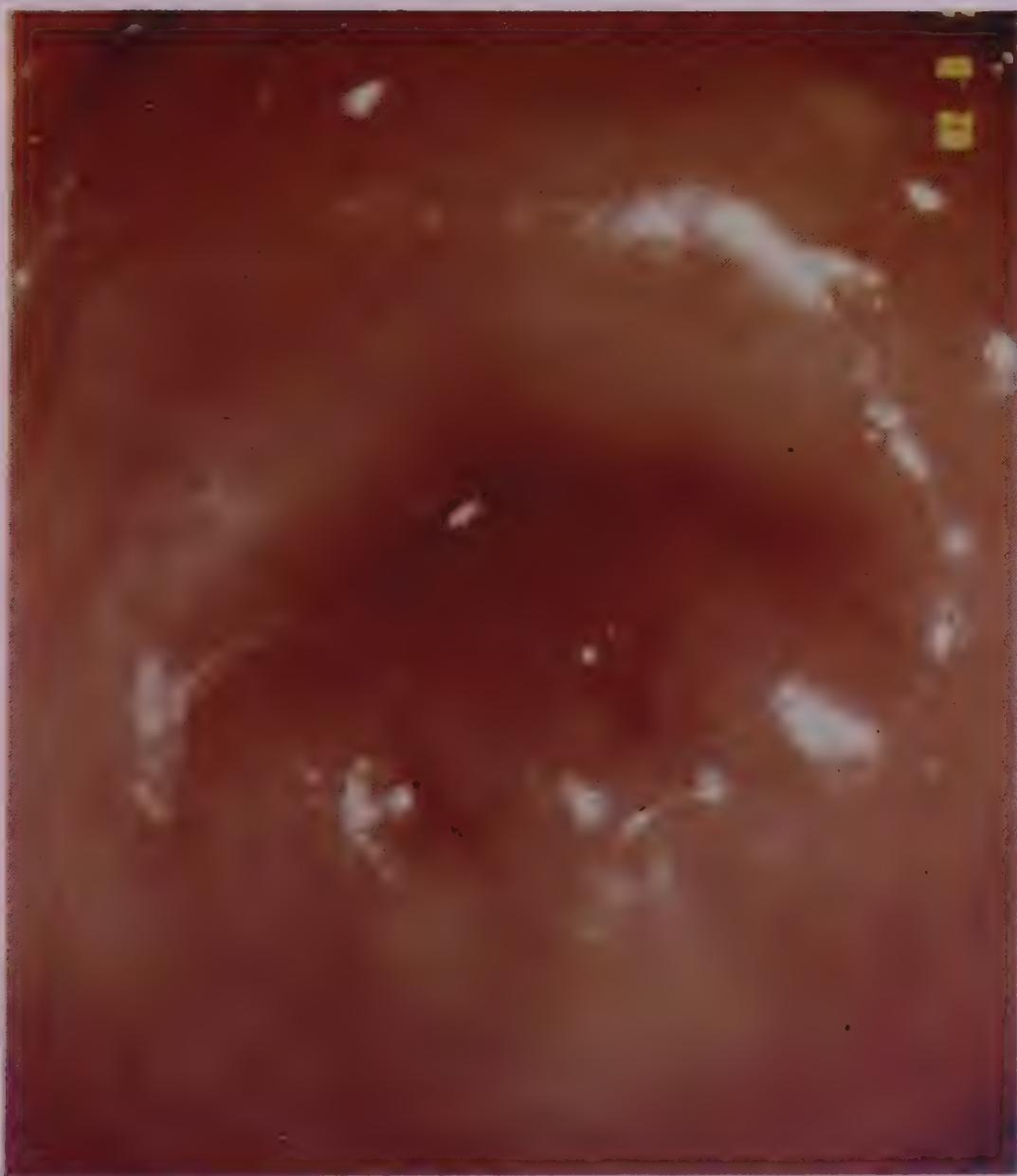
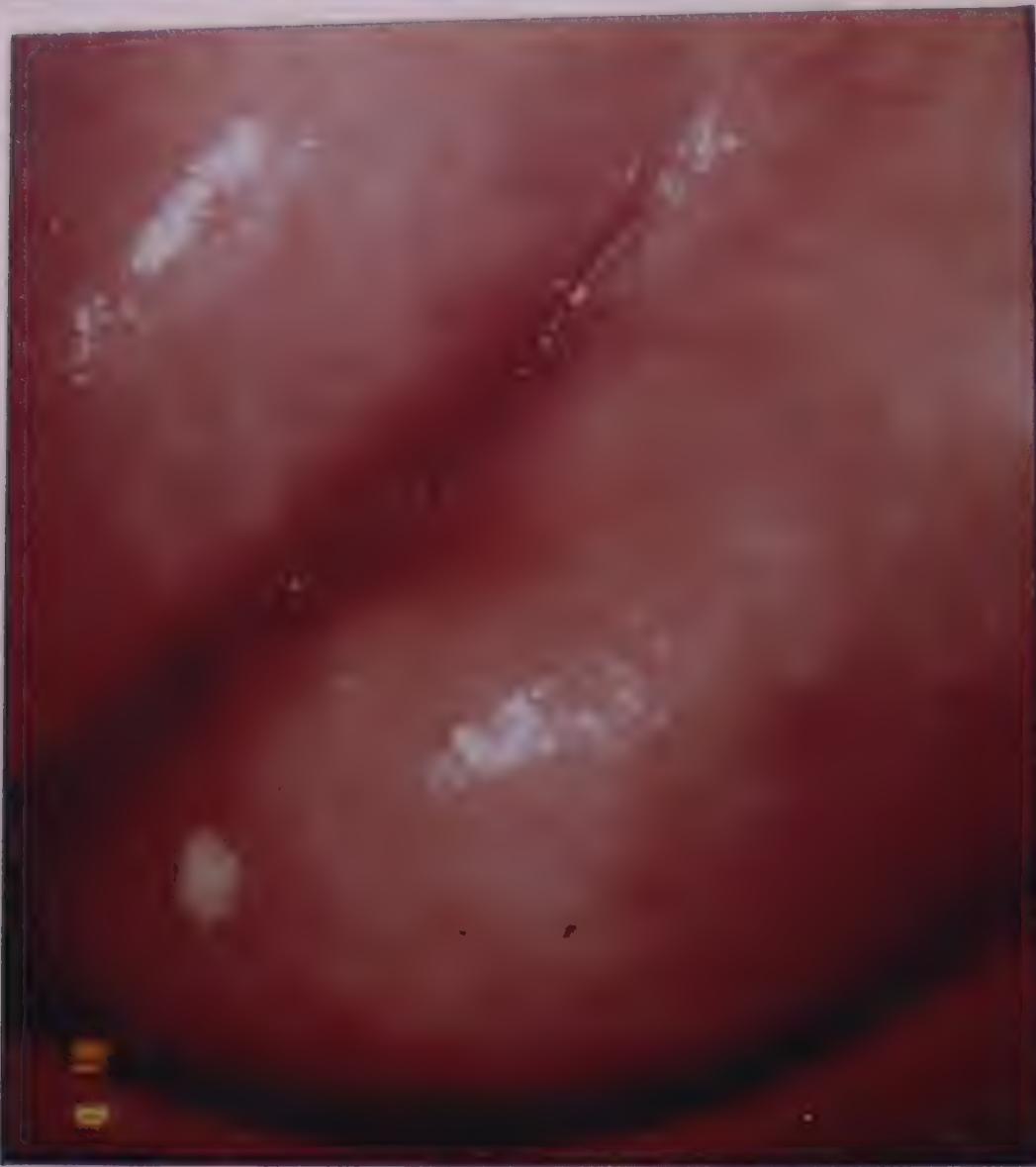


Fig. No. 9
Normal Cervix





*Fig. No. 10
Normal Cervix*



*Fig. No. 11
Appearance of the Cervix in a Post
Menopausal Woman*

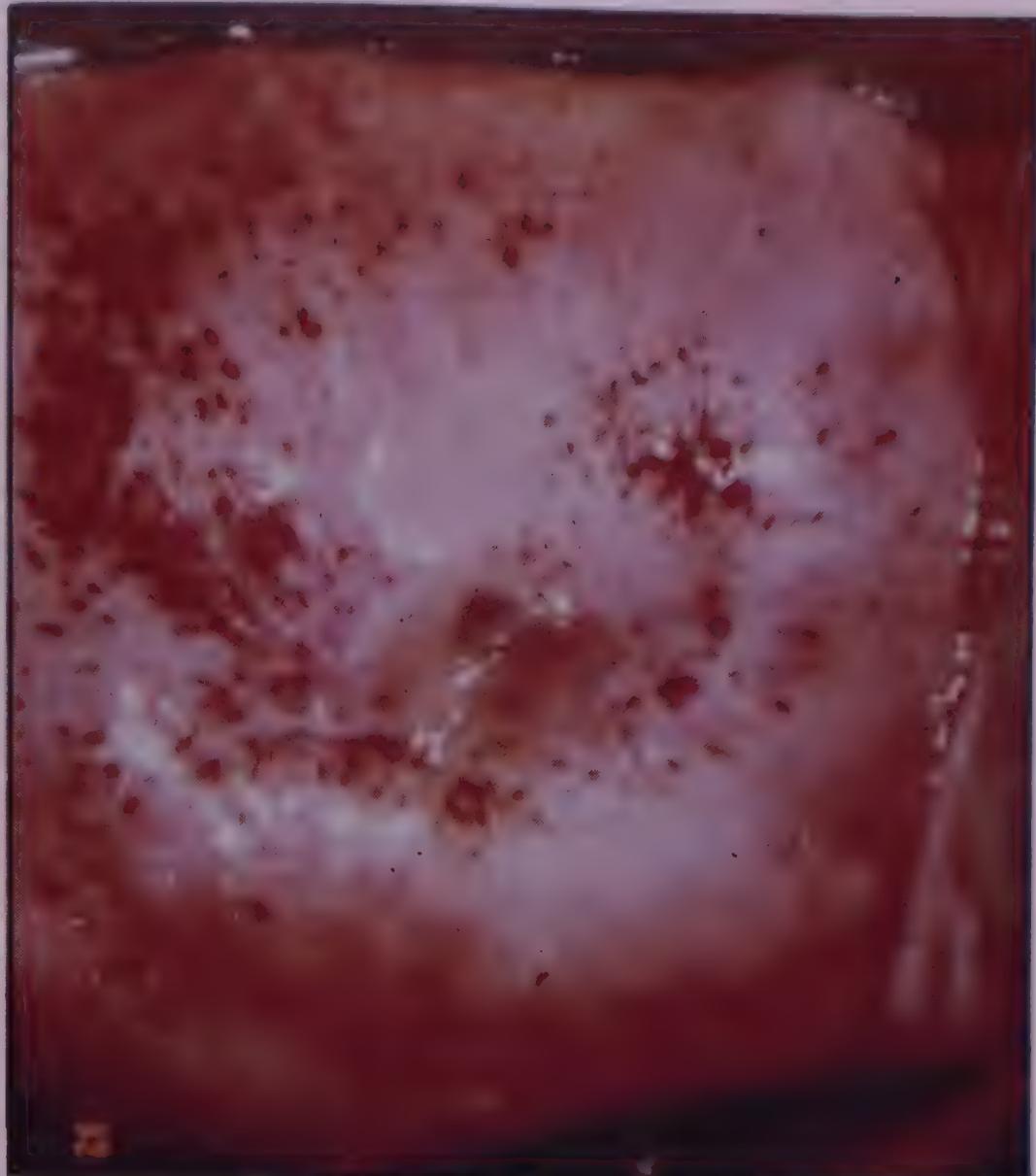
Fig. No. 12
The Appearance of the Cervix in a postmenopausal woman



How does a diseased cervix appear?

A diseased cervix usually appears abnormal and may:

- be reddish (congested)
- be covered with discharge
- have a red area
- have a white patch
- have an irregular surface which bleeds on touch
- have a growth or an ulcer
- bleed on touch



What should be done during the visual inspection of the cervix ?

During visual inspection of the cervix look for any abnormality in:

- colour
- shape
- surface contour
- size
- discharge
- bleeding

and for

Abnormal :

- any redness
- abnormal discharge
- a growth with smooth surface
- any distortion of the cervix in shape, size, contour and surface
- contact bleeding without an obvious growth or ulcer
- a cervix that does not appear to be normal

Accordingly classify the appearance of the cervix into:

- normal
- abnormal
- malignant

Normal :

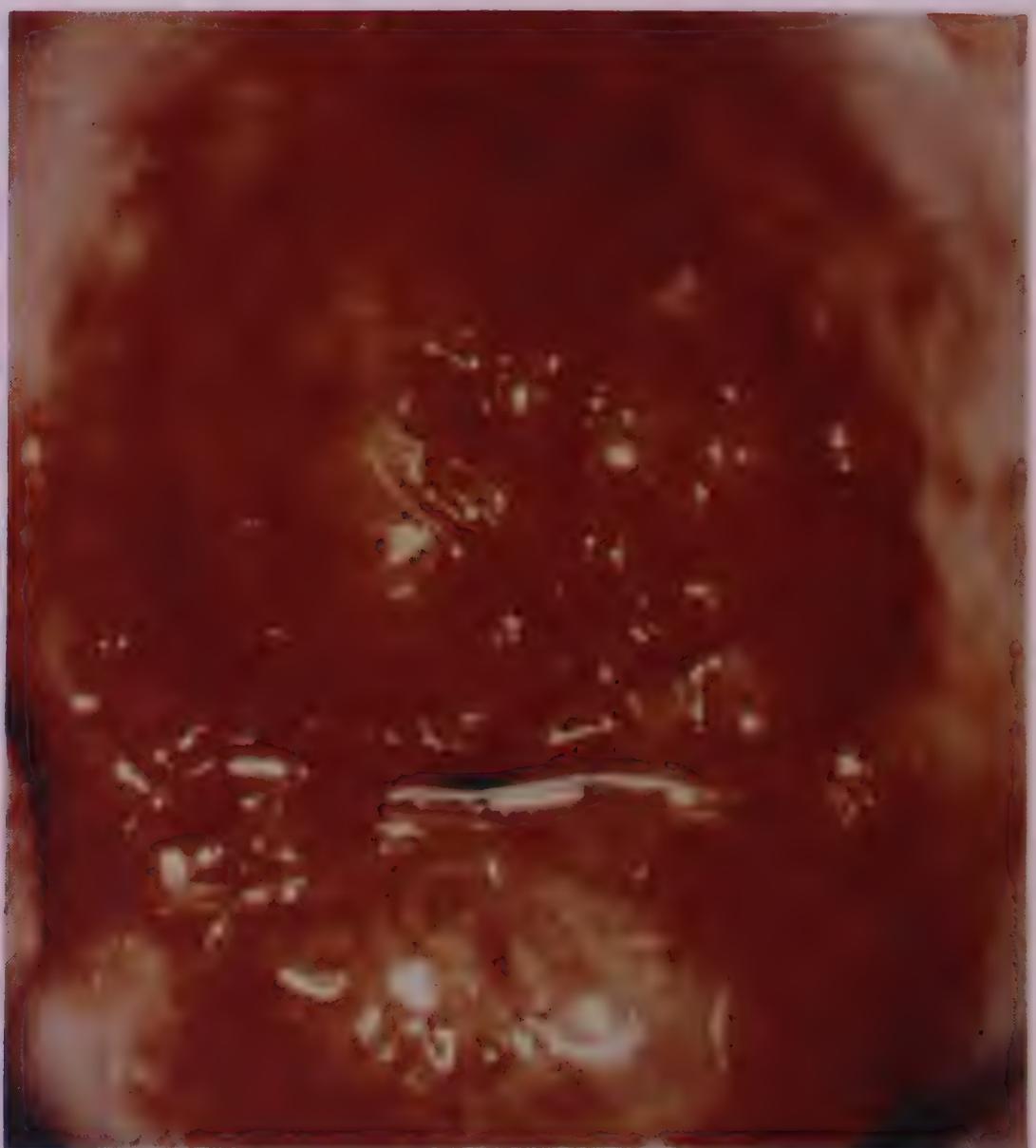
colour	– pink
shape	– round
surface (contour)	– smooth
size and shape	– varies with age and parity
bleeding	– absent
discharge	– clear/white and mucoid

Malignant : When there is :

- a growth - with an irregular surface
- friable
- an ulcer
- both of which bleed on touch



*Fig. No. 13
Abnormal Cervix*



*Fig. No. 14
Abnormal Cervix*

Fig. No. 15
Abnormal Cervix

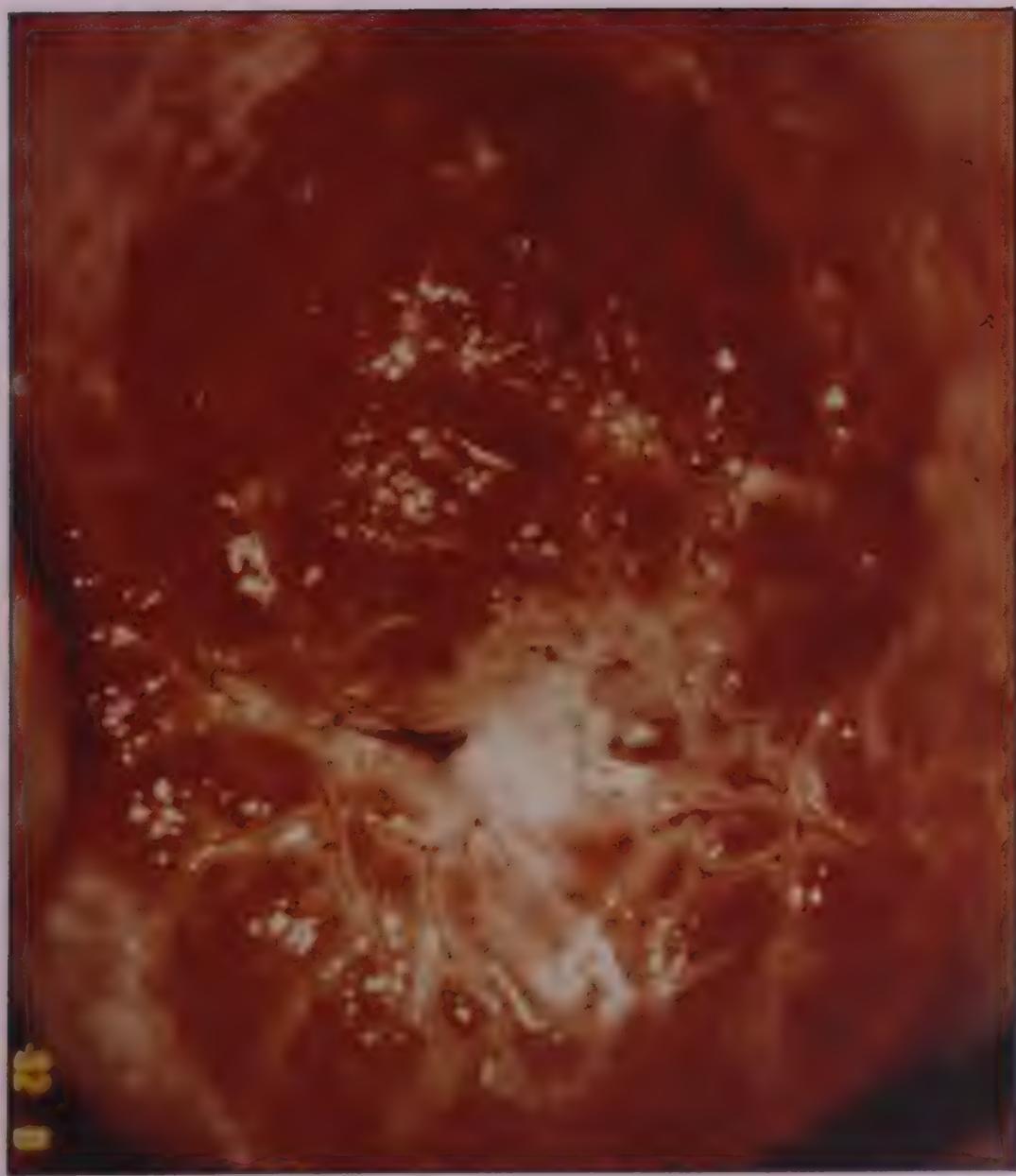
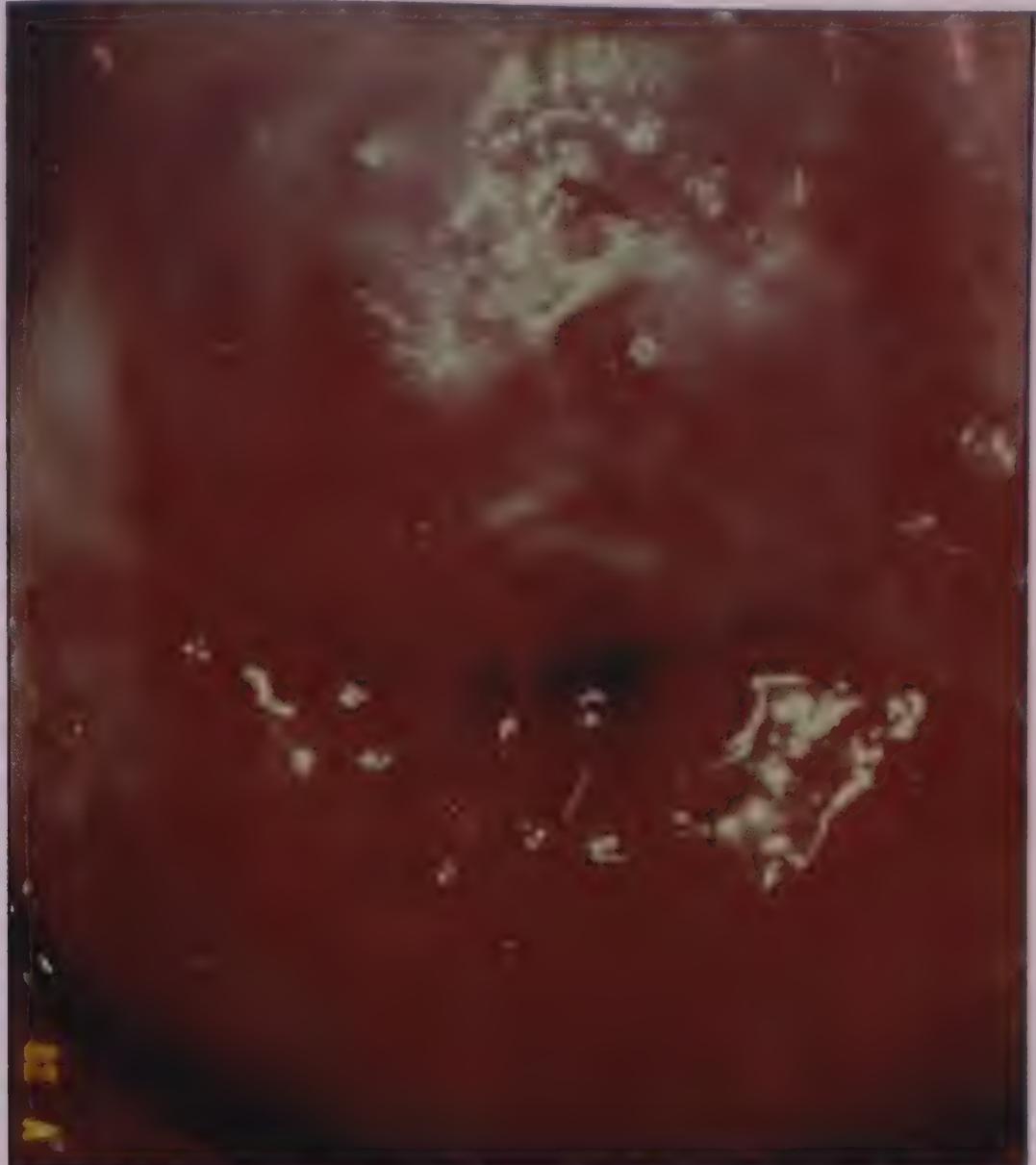
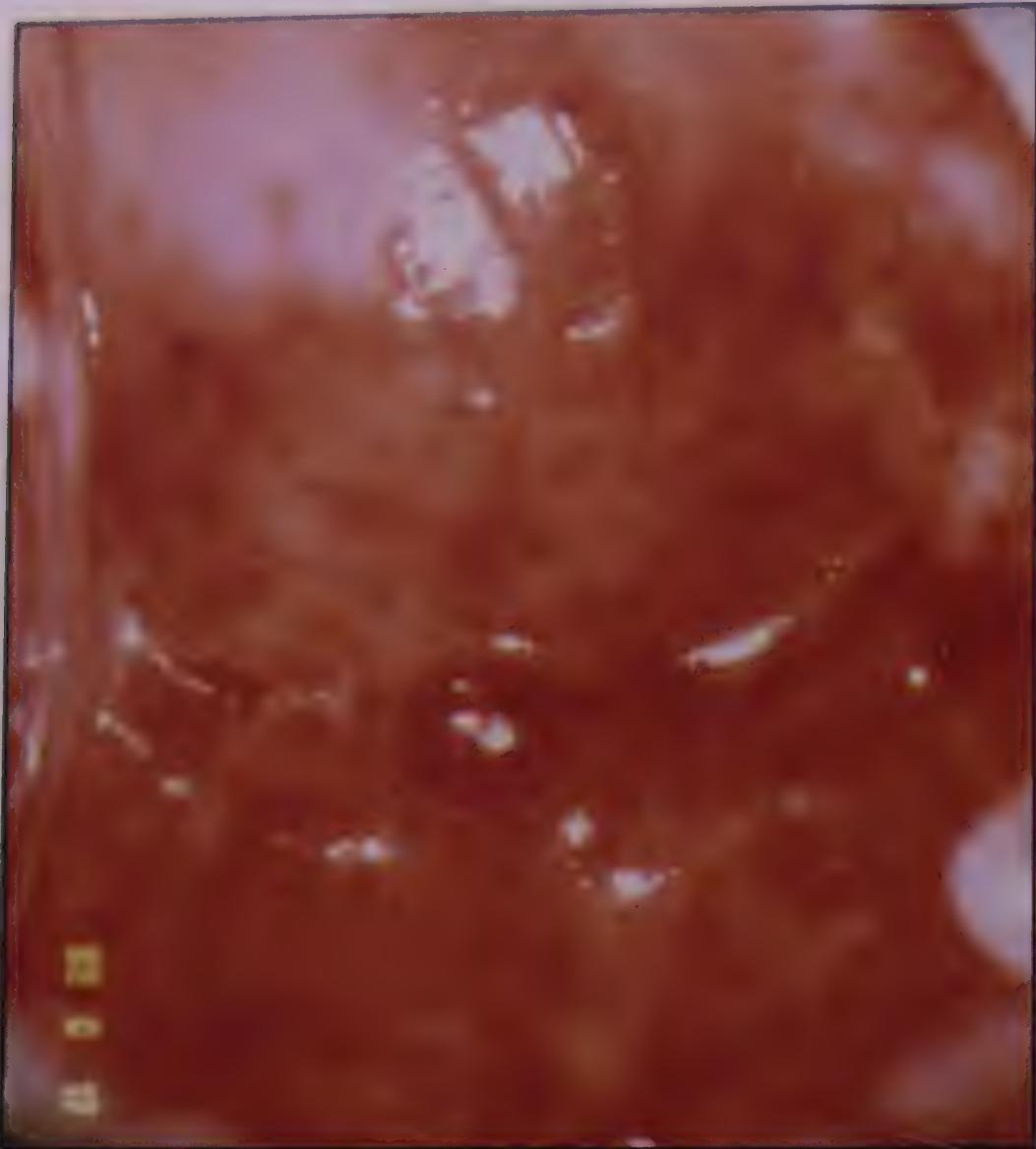
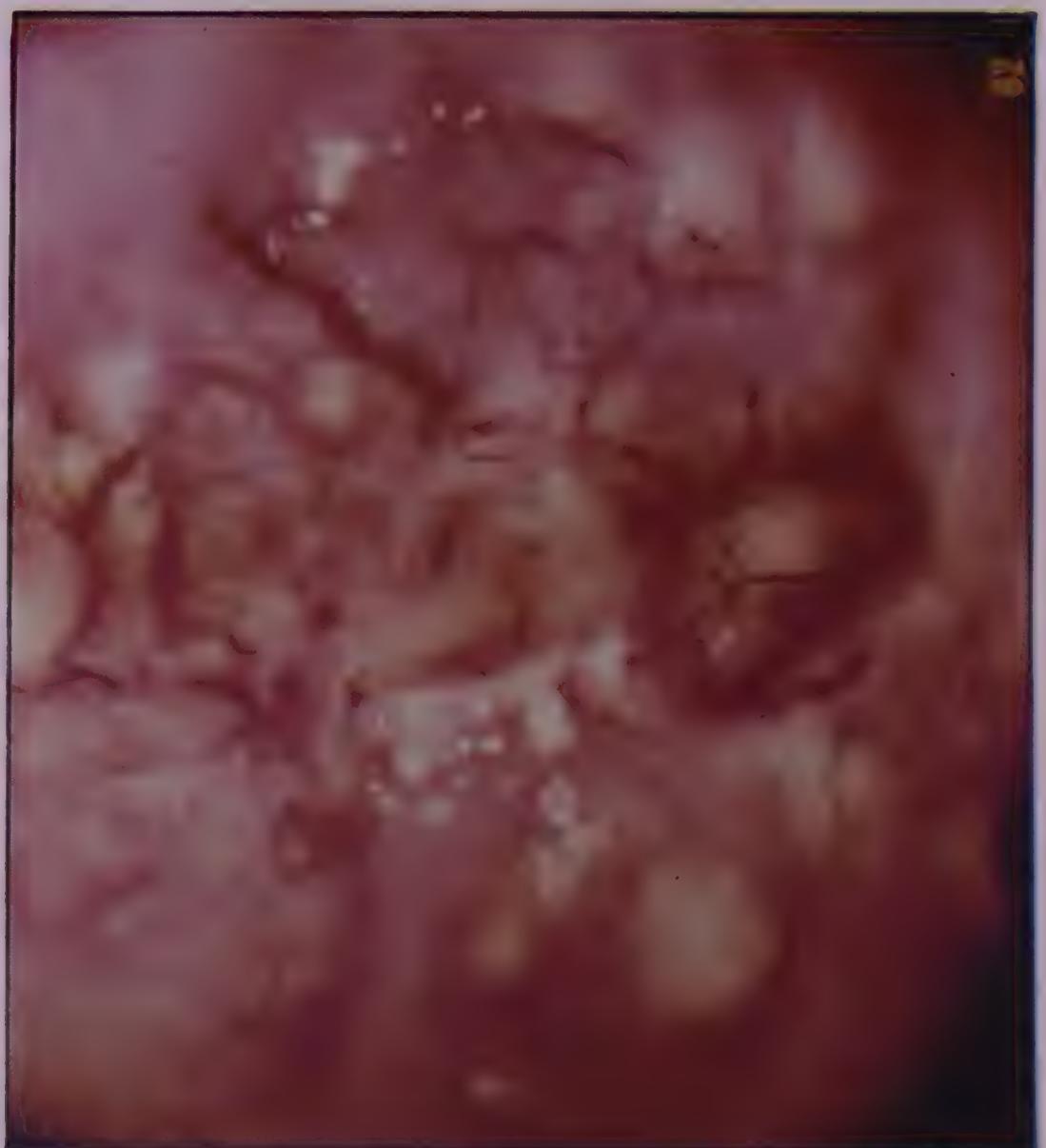


Fig. No. 16
Abnormal Cervix



*Fig. No. 17
Abnormal Cervix*



*Fig. No. 18
Abnormal Cervix*

*Fig. No. 19
Abnormal Cervix*

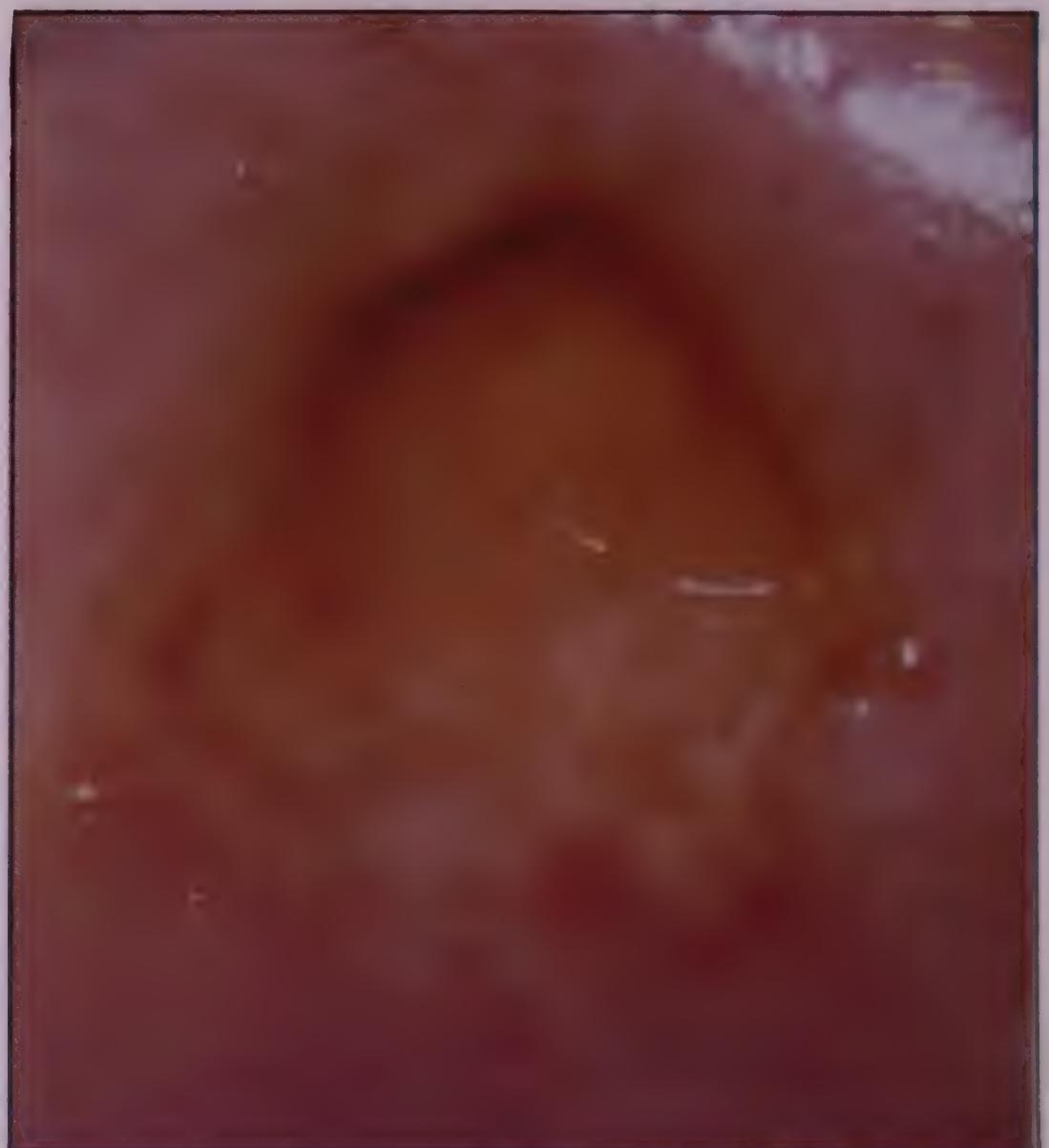


*Fig. No. 20
Abnormal Cervix*





*Fig. No. 21
Abnormal Cervix*



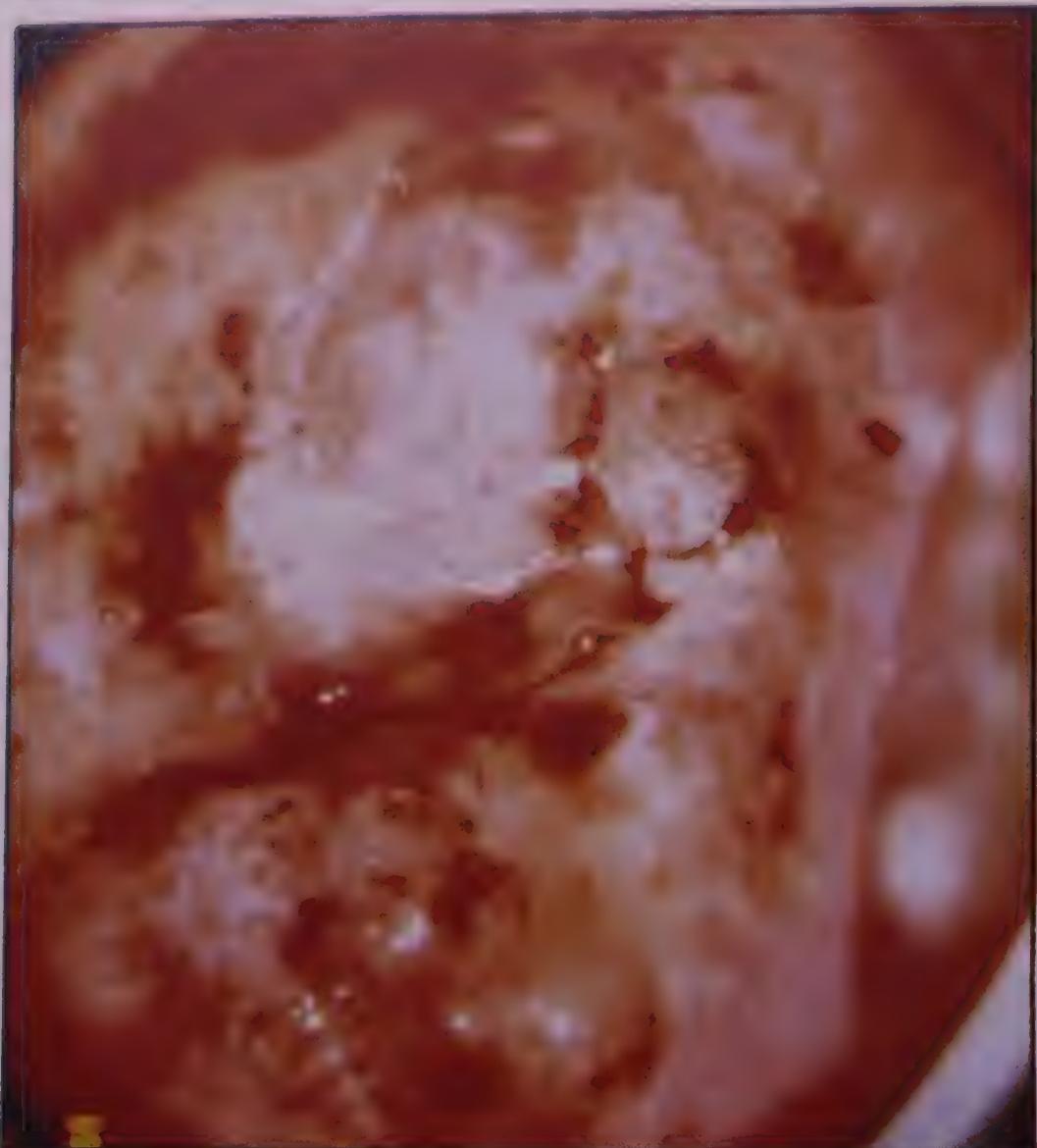
*Fig. No. 22
Abnormal Cervix*

*Fig. No. 23
Abnormal Cervix*

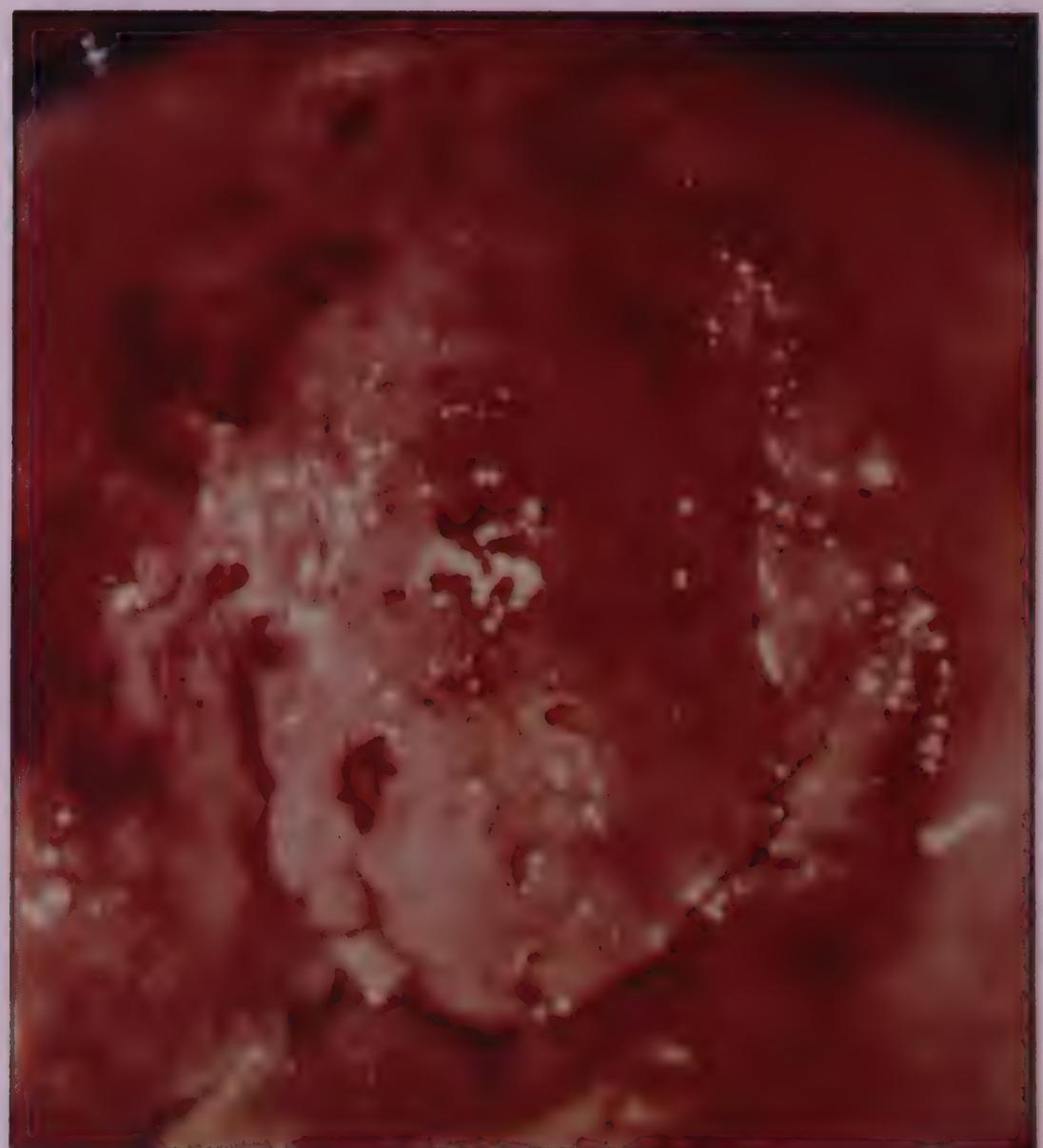


*Fig. No. 24
Benign growth Cervix*





*Fig. No. 25
Cancer Cervix*



*Fig. No. 26
Cancer Cervix*

Fig. No. 27
Cancer Cervix

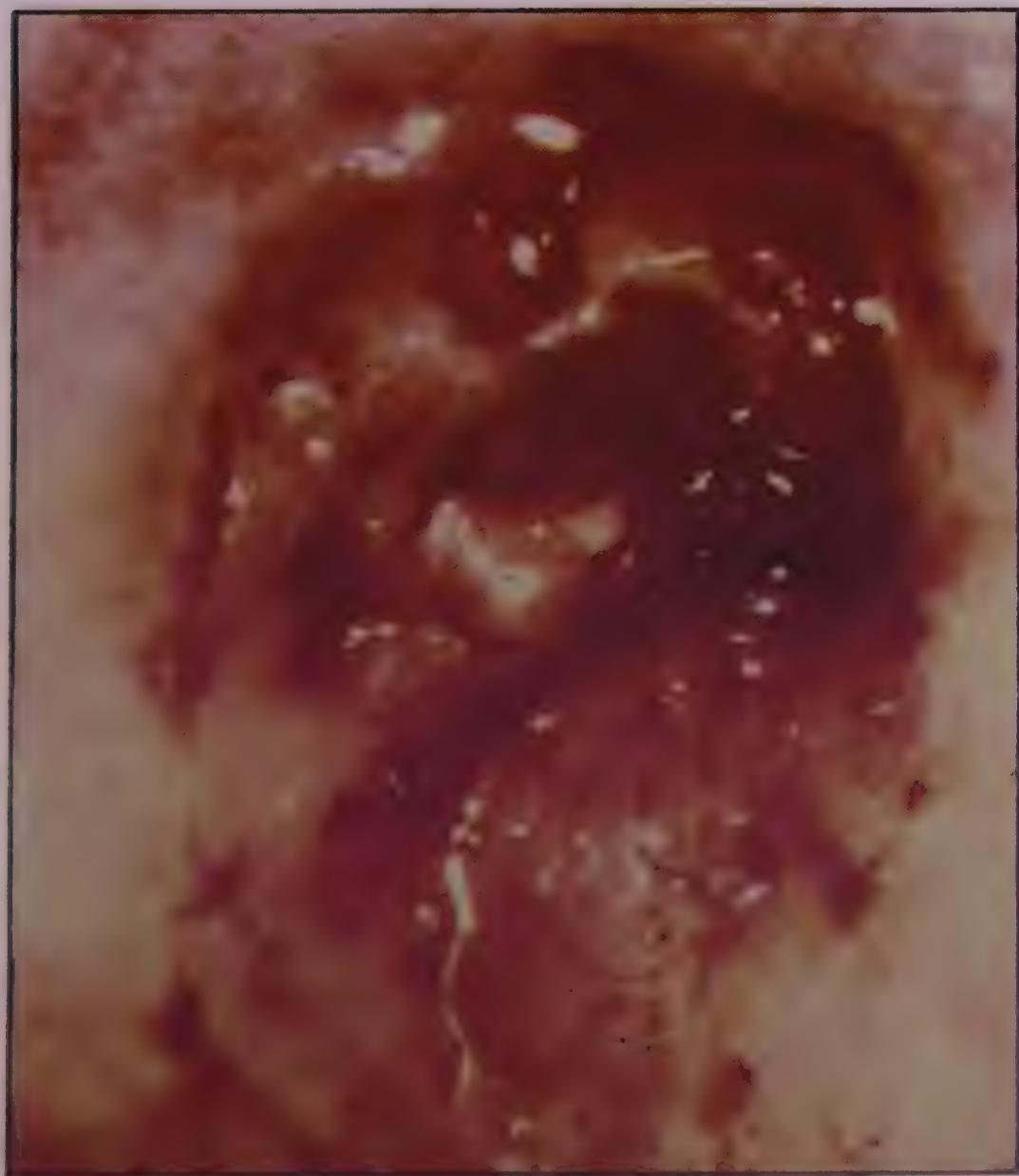
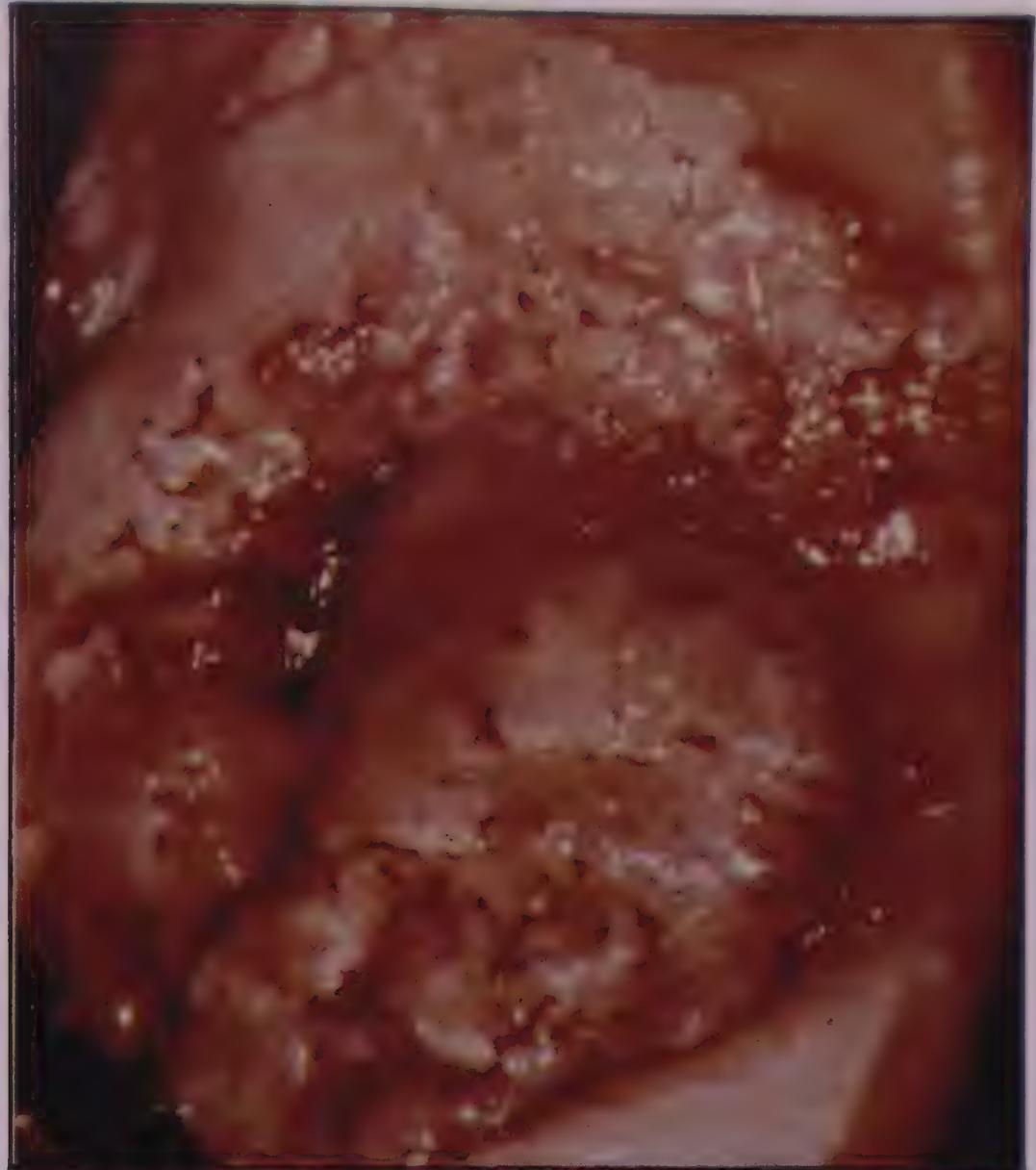
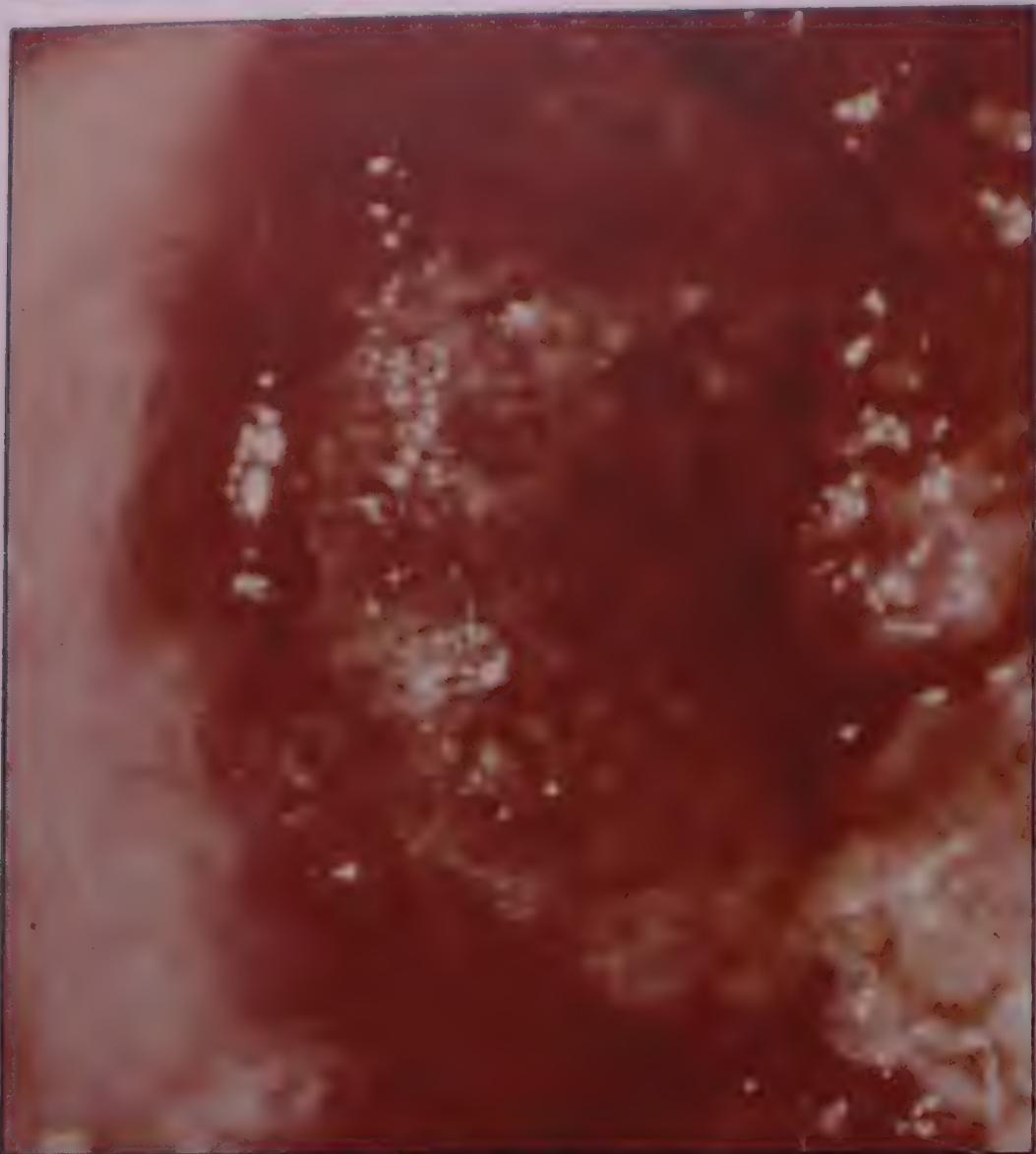
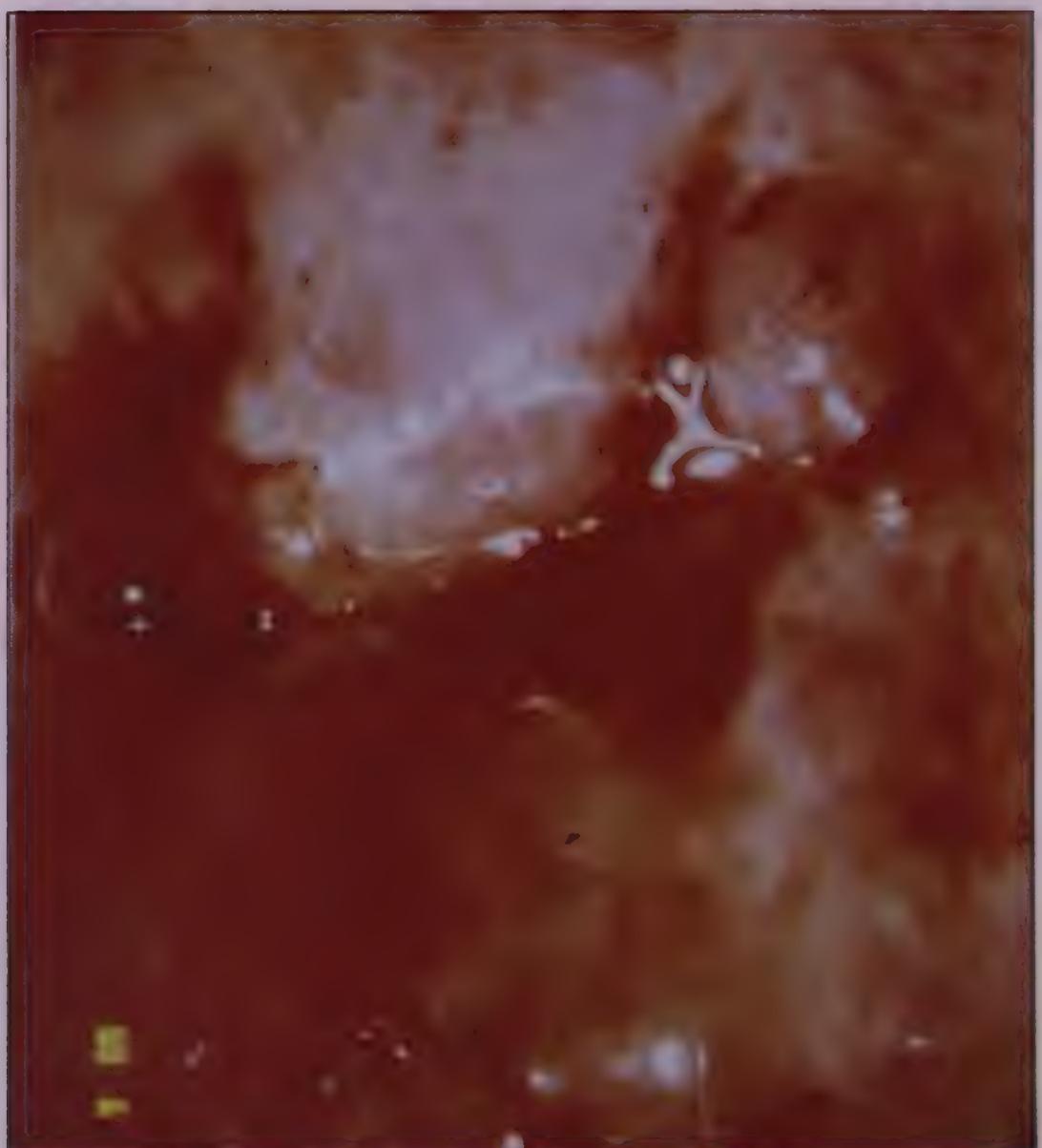


Fig. No. 28
Cancer Cervix



*Fig. No. 29
Cancer Cervix*



*Fig. No. 30
Cancer Cervix*

When should visual inspection of the cervix be avoided ?

Visual inspection should not be done :

- during a menstrual period.
- in the presence of any medication in the vagina.

When is the best time to do visual inspection ?

Ideally visual inspection of the cervix should be done in women who are:

- in the reproductive age group – one week after the cessation of a menstrual period
- postmenopausal – at any time

What should be done if the visual inspection indicates :

1. a normal cervix : repeat visual inspection after one year.
2. an abnormal cervix : refer to the Primary Health Centre for advice.
3. a malignant cervix : this observation should be verified by the Primary Health Center doctor and the woman should be referred to a centre with the necessary facilities to confirm the presence of cancer and therapy.

How can visual inspection of the cervix be used to control cancer cervix in India ?

An Annual Visual Inspection of the cervix, if performed in women aged between 35 and 64 years, can help to detect the disease so that any abnormality if detected, would help women to seek treatment with early disease when treatment usually yields good results.

THE PAP SMEAR

SECTION III

This Section is meant for Health personnel such as the Junior Health Visitor (female), Lady Health Visitor and the Medical Officer who will impart health education (Section I), perform visual inspection of the cervix and triage the appearance of the cervix into normal, abnormal and malignant (Section II), if the facility is available, take an adequate pap smear in those in whom the cervix is normal or abnormal, and refer appropriately those women who need further investigation and treatment to institutions with such facilities.

The pap smear is a test that is performed to detect the early abnormal changes in the cells of the cervix by taking a scraping from the cervix and studying the cells so obtained under the microscope. This technique called cytology was described first in 1924 by Dr. Papanicolaou. Cytology was accepted as the method of screening for cervical cancer in 1941. The use of the pap smear in organised screening programmes in several developed countries has contributed to the decrease in the incidence and mortality of cancer cervix in those countries.

Though performing the pap smear per se is simple, various factors influence the results – site of sampling, process of preserving the material that is collected, transport of the slide to the laboratory, processing in the laboratory, experience of the person reading and reporting the slide and ensuring that the report reaches the patient and her physician such that, if indicated, appropriate action can be advised and carried out. The infrastructural facilities for all these steps are markedly lacking in our country. The facilities for investigation,

diagnosis, treatment and follow up of women with an abnormal smear are also far from satisfactory. Such deficiencies can lead to both – under and over treatment of women identified by an abnormal smear. All such factors can discredit efforts at screening for cancer cervix even before the concepts of prevention and early detection have taken root in the minds of both the deliverer of health care and also the recipient.

This being the reality, the pap smear is still relatively "high tech" for our country and circumstances do not yet permit it being made available nationally – unlike the simple visual inspection.

Despite the above limitation, widespread use of visual inspection has the potential to create a new consciousness among women and also a new awareness among health policy administrators, as a result of which new dynamics may be triggered off, raising the demand for the more efficacious method of pap smear in place of the simple technique of visual inspection.

What is required to take a pap smear ?

1. A place with privacy
2. Sufficient illumination
3. A sterile speculum
4. A pair of sterile gloves
5. A sterile wooden spatula
6. A clean glass slide
7. Instant fixative
8. A glass marking pencil
9. The prescribed requisition form

Remove the speculum and spatula from the boiling water using the Cheatle's forceps and place them on the inverted surface of the lid. Now place the washed pair of gloves in the boiling water so that they are completely immersed in the boiling water for a minute. Then remove them from the water and place along with the speculum and spatula on the inverted surface of the lid of the vessel. Allow to cool to body temperature before use. **The spatula is to be discarded after one use.**

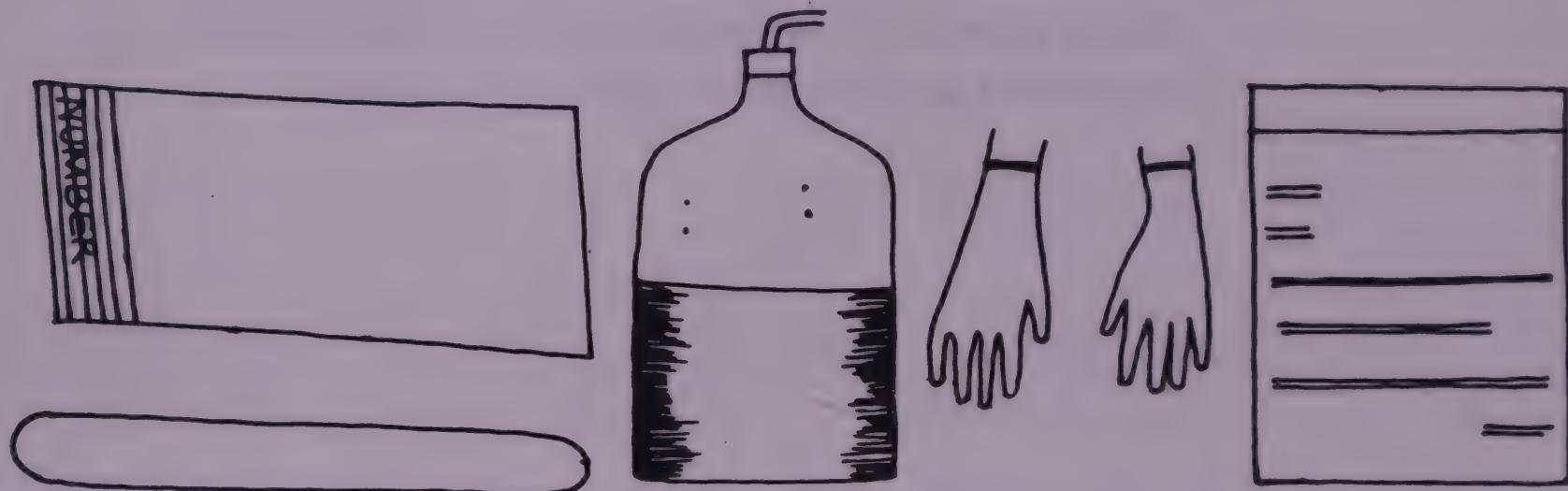


Fig. No. 31. Requirements for the Pap Smear. All these items must be kept ready, within easy reach of your hands, so that once you start doing the test there will be no delay in any of the steps.

How are the speculum, spatula and gloves sterilised ?

Every attempt should be made to use only autoclaved gloves and speculae. However if that is not possible then the following method to sterilise the necessary instruments etc. could be adopted .

Put clean water to boil in a clean vessel with a lid. The spatula, speculum and gloves should be washed well in clean water. The gloves must be turned both ways while washing in order to ensure cleanliness. The spatula and speculum are placed in the boiling water and the lid of the vessel closed. A Cheatle's forceps must also be placed in the boiling water so that the lower half of the instrument is immersed in the boiling water. They must remain in boiling water for 10 minutes. Then, remove the lid of the vessel and place it upside down so that the surface that was exposed to the boiling water faces upwards.

How is the pap smear taken ?

1. The woman should lie on her back comfortably with her legs bent, after she has passed urine.
2. A sterile speculum is gently introduced into the vagina so that the cervix can be visualised with proper illumination.

When attempting to do this test, if

- the speculum cannot be introduced or
- the cervix cannot be visualised and there is no history of surgical removal of the uterus:

then refer the woman for examination to a doctor.

The appearance of the cervix is classified into :

- normal
- abnormal
- malignant

The pap smear is done in the following manner if the cervix appears to be normal or abnormal.

1. Mark the concerned identification number of the patient on a clean and grease-free slide and keep it ready. The same number should be written on the requisition form.
2. Now introduce the speculum into the vagina as for the visual inspection. Gently introduce the spatula into the cervical opening. Firmly press the tip of the spatula against the cervical opening and gently rotate it fully clockwise. This results in detachment of some cells which will stick to the surface of the spatula.
3. Rub both sides of the spatula rapidly and evenly in one direction against the slide. This results in the cells being rubbed onto the slide.
4. Put the instant fixative immediately over the material that has been smeared on the slide and allow it to dry. Any delay will result in the smear drying without the cells being preserved and the smear may then have to be repeated as the laboratory may not be able to "read" the slide.
5. Put the dry slide into a slide box. Take the box to the Primary Health Center at the time of the next monthly meeting with the completely filled requisition forms. From there it will be collected and sent to the laboratory. There the slide will be studied under a microscope to assess whether the cells are normal, abnormal or whether there is infection.

If the Pap smear has not been prepared properly, it may have to be repeated and hence every effort must be made to follow the above steps carefully.

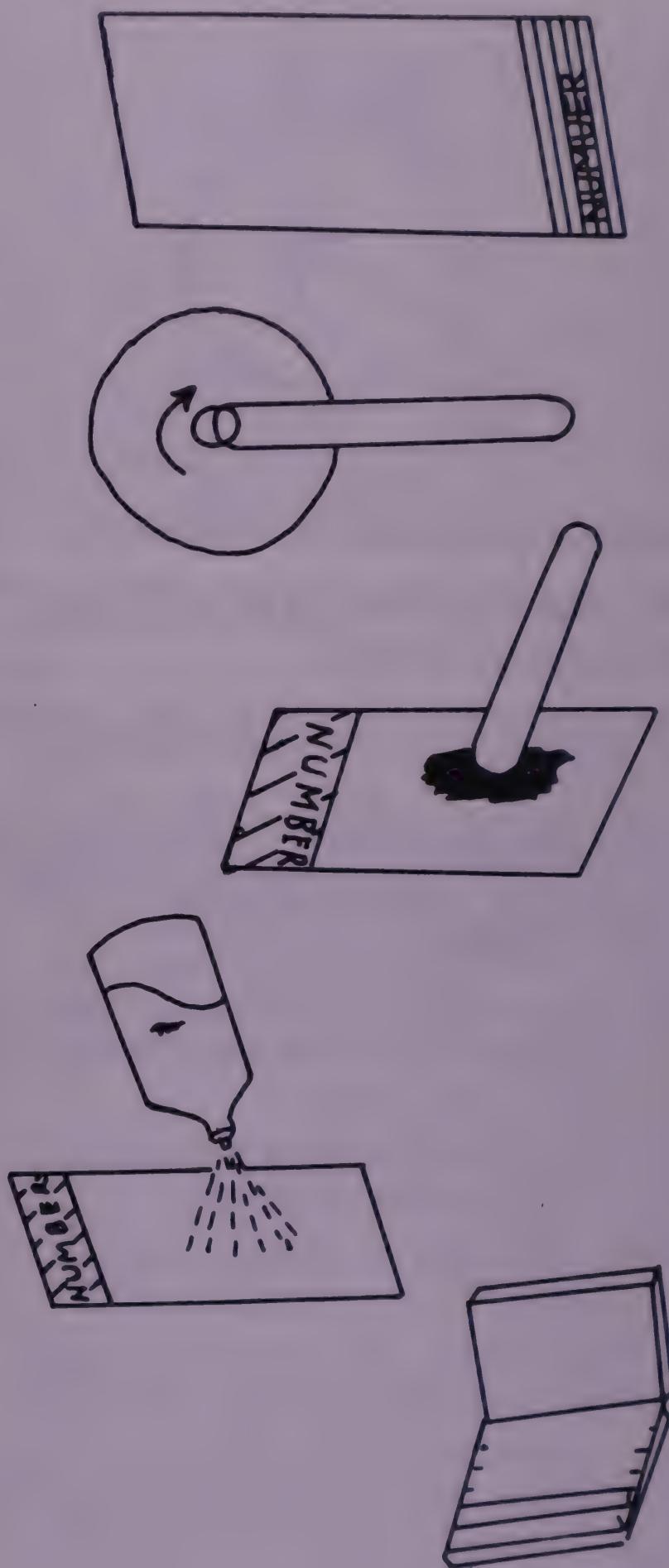


Fig. No.32. The Pap Smear

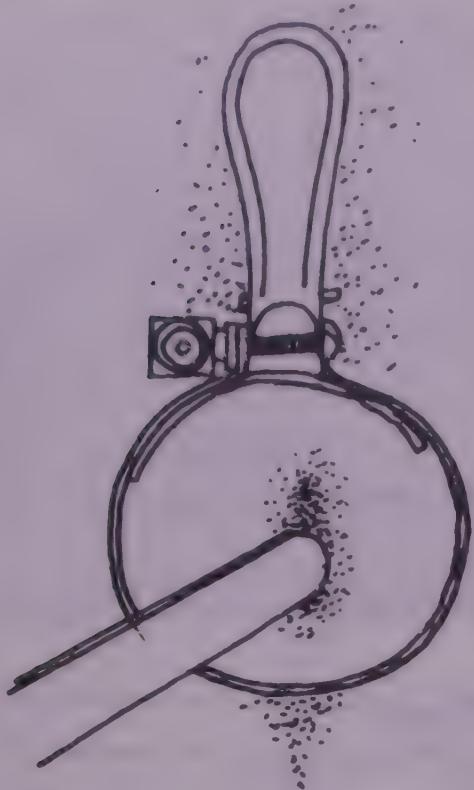


Fig.No.33. View of the pap smear being taken

What precautions should be taken while taking the pap smear ?

The following precautions must be taken while doing the test:

1. All the required instruments and gloves should be sterilised before commencing the procedure.
2. All the materials and instruments required for the test must be kept ready within easy reach of one's hands.
3. The speculum should be introduced into the vagina without a lubricant
4. The slide must be clean, dry and free of grease.
5. The material removed by the spatula should form only a thin layer on the slide.
6. The smear collection and the slide fixation should be done rapidly so that the cells in the smear do not dry.
7. The identification number of the patient must be written on the slide and also on the completely filled requisition form.
8. The slide and the slide-box with slides must be handled carefully to avoid breakage.

Why is the requisition form important ?

The requisition form contains the details of the identity of the patient such as Name, Age, Address, husband's name, date of the test, date of the last menstrual period, any symptoms such as abnormal vaginal discharge or bleeding. The form must be filled legibly so that the laboratory will be able to record these details along with the results. This report must reach the patient. She should be asked to carefully preserve the report.

When can the pap smear be done ?

The Pap smear should be done if the cervix appears to be:

- normal
- abnormal

When should the pap smear not be taken?

The smear should not be taken in the presence of :

- a menstrual period.
- medication in the vagina.
- abnormal vaginal discharge.
- contact bleeding.
- a growth or ulcer on the cervix (suspicion of malignancy).

The results of a smear taken in the above circumstances may not be accurate. In the instances of:

(a) and (b) : the smear should be taken one week after the cessation of menstrual flow or insertion of medication into the vagina;

while in the cases of:

(c), (d) and (e) : the woman should be referred to a doctor or centre with facilities for further tests and treatment.

How will the pap smear be reported?

The pap smear will be reported as

- normal
- infection/inflammation
- abnormal
- suspicious of malignancy

The exact method of reporting is indicated on page 39 in Section IV.

What should be done if the report of the Pap smear is normal ?

The Pap smear, if reported as normal, should be repeated after five years.

What should be done if the report of the Pap smear indicates the presence of infection ?

The woman needs treatment as advised by the doctor. The treatment will depend on the type of infection. **Both the woman and her partner will be required to take the treatment**, as otherwise the infection will recur. The pap smear must be repeated after six months and every five years thereafter. If the result of the repeat smear is normal. The woman requires referral to a centre with facilities in case the repeat smear is reported as infection.

What should be done if the report of the Pap smear is abnormal ?

The woman will need to undergo further tests in a hospital with facilities. The treatment is simple if a precancerous condition

or very early cancer is detected when compared with that of advanced disease.

When does the Pap smear have to be repeated?

The smear is repeated :

1. immediately:
 - if the smear is not taken properly
2. Normal:
 - after 5 years
3. Infection:
 - 6 months after treatment and control of infection and every 5 years thereafter if the result of the repeat smear is normal

How can the pap smear be used to control cancer cervix in India?

When the pap smear is performed in women aged between 35 and 64 years and repeated as indicated above, it can detect early abnormal changes that may occur in the cervix and, if these changes are appropriately treated then cancer cervix may not develop and progress to cause death. Thus the development and progression of this disease can be prevented and its control can be made possible in India.

PRIMARY HEALTH CARE PHYSICIANS AND EARLY DETECTION OF CANCER CERVIX

This section is meant for the Primary Health Care Medical Officers and especially the lady medical officer who will be the first physician to be approached by women either by self-referral because of symptoms of a diseased cervix or on referral by health personnel. It is also intended to assist the physicians to acquire some knowledge about diagnosis and simple therapy of cervico-vaginal infections and, have access to information about cancer cervix that may contribute to the reduction of medical delay.

Indian women may be illiterate but they are culturally and civilizationally intelligent, dignified, wise and understanding. With changes all around them, they are often the victims of new diseases – due to changing cultural values, male and female promiscuity and a total lack of concern for women's health. Traditionally she has been imbued with a very poor self-image, which results in putting herself and her needs last, more so her own health. She therefore gives much less attention to preventive care for her own health.

The Indian health care infrastructure is one of the largest in the world. The Primary Health Centre occupies a key position in this network and as on 31 December 1993 there were 21040 Primary Health Centres in India of which 1312 are in Karnataka. This infrastructure is interested in the Indian couple only in the context of Family Planning. Once a couple has co-operated with regard to methods of population control or, for reasons of age are taken off that list, their health care is no longer of any significance.

In the emerging context of liberalisation / privatisation there is new thinking and new

pressure against continuation of Government funded health and welfare activity. Yet this is the only network available through which both curative and preventive health measures can be made available to the vast majority of Indian people. Without further loss of time this existing infrastructure must be made use of to make Indian women aware that only "a little attention" is required to ensure that she does not develop cancer cervix.

The Medical Officers and Lady Medical Officers are the pivots on whom rests this programme of early detection. The successful implementation of this programme through the health personnel of their primary health centre will depend entirely on them. They will need to impart health awareness about cancer cervix to rural women (Section I), perform visual inspection (Section II), triage the appearance of the cervix into normal, abnormal or malignant, take an adequate pap smear if facilities are available (Section III), treat those in whom the pap smear indicates the presence of infection (Section IV) and refer appropriately those who need further investigation and treatment.

How is the appearance of the cervix classified by visual inspection ?

Visual inspection of the cervix on per speculum examination can be used to triage the appearance of the cervix into :

- normal
- abnormal
- malignant

A pap smear (if facilities are available) should be taken when the appearance is normal or abnormal.

How does the normal cervix appear?

The normal cervix is :

colour	– pink. In postmenopausal women it is very pale pink.
shape	– round
surface	– smooth.
size	– varies. Smaller in size and may not project into the vagina in postmenopausal women.
discharge	– clear / white and mucoid.

shape of the opening or external os – varies with parity and becomes slit-like or irregular after a vaginal delivery.

The cervix does not normally bleed on touch.

Figure Nos. 8,9,10,11 and 12 on pages 13, 14, 15 are photographs of the normal cervix.

An annual visual inspection is required if the cervix appears to be normal and no facilities are available to take a pap smear.

What is normal vaginal discharge ?

The normal cervix produces some amount of clear, white mucoid discharge midway

between two menstrual periods, and also for a few days immediately before and after a menstrual period. This is called normal vaginal discharge.

How does the abnormal cervix appear ?

A cervix is classified as abnormal if there is an :

- any redness
- abnormal discharge
- a growth with smooth surface
- any distortion of the cervix in shape, size, contour and surface
- contact bleeding without an obvious growth or ulcer
- a cervix that does not appear to be normal

What is the most common symptom of the abnormal cervix ?

The most common symptom of an abnormal cervix is abnormal vaginal discharge.

What is abnormal vaginal discharge?

Vaginal discharge is considered to be abnormal when it is:

profuse / copious (stains the undergarments or requires the use of a sanitary napkin / cloth)
continuous
associated with itching around the vaginal opening
altered in colour such as brown, yellow, green etc.

altered in consistency
– thick and curd-like
– watery
– frothy

blood-tinged
malodorous

What are some of the clinical conditions that give the cervix an abnormal appearance on visual inspection ?

The cervix is said to be abnormal when it is affected by:

infection or cervicitis i.e.

- acute cervicitis
- chronic cervicitis

ectopy

obstetric injuries

uterovaginal prolapse with decubitus

ulcer benign new growths

What are the causes of infection ?

Infection of the cervix may be caused by various types of organisms that reach the cervix through infected water, dirty towels, poor hygiene or through sexual contact. Acute infections of the cervix are accompanied by similar infections of the vagina.

What are the common organisms infecting the cervix ?

The common organisms that infect the cervix are:

1. Protozoal — Trichomonas Vaginalis
2. Fungal — Candida Albicans
3. Viral — Herpes Simplex Type II
Human Papilloma Virus
4. Bacterial — Haemophilus or
Gardenerella Vaginalis
5. Mixed

Though the organisms can also be found in the reproductive organs of the male, he rarely suffers from any symptoms. Thus, it is a silent infection in the male partner.

What are the symptoms of acute infection?

The most important symptom is abnormal vaginal discharge. This may be copious and occasionally foul-smelling and may be associated with vulval pruritis. The vulva may also become congested and swollen / inflamed.

How does the cervix appear when there is acute infection ?

The cervix usually appears red and may be covered with discharge which is thick and purulent. The outer edge of this redness is not clear. The discharge is usually:

- frothy and greenish-yellow if the organism is **Trichomonas Vaginalis**,
- curd-like white if it is **Candida Albicans**, and
- watery and persistent if it is **Haemophilus Vaginalis**.

The vaginal walls will also be congested and covered with similar discharge.

Figure Nos. 13, 14, 15, 16 and 17 on pages 16, 17, 18 indicate the abnormal appearance of the cervix as a result of acute infection.

How can acute infection be diagnosed ?

Acute infection can be diagnosed by a good visual inspection of the cervix along with a wet smear. A wet smear is prepared by adding a drop of normal saline to a drop of the discharge placed on a dry, clean, grease-free glass slide, placing a cover-slip over it and examining it immediately under a microscope. *Trichomonas vaginalis* is observed as flagellated motile organisms. *Candida albicans* will be seen as long thread-like fibres attached to small buds when 10% potassium or sodium hydroxide solution is used to make a similar preparation and examined under the microscope.

What is the treatment of acute cervico-vaginal infection ?

The treatment of acute cervico-vaginal infection will depend on the causative organism, and very often it is a mixed infection. The treatment suggested is as follows:

1 Trichomonas Vaginalis :

Systemic :

Tab. Metronidazole 200 mg by mouth three times a day for seven to ten days for both partners.

OR

Tab. Tinidazole 2 gms by mouth single dose for both partners

2 Candida Albicans :

Local :

Miconazole vaginal pessaries 100 mg to be inserted into the vagina daily at night for six days.

OR

Clotrimazole vaginal pessaries 100 mg to be inserted into the vagina daily at night for six days.

In resistant cases :

Systemic :

Tab. Ketoconazole 100 mg by mouth twice daily for five days for both partners.

OR

Tab. Fluconazole 150 mg by mouth single dose for both partners

3 Bacterial :

Local :

Povidone Iodine vaginal pessaries to be inserted into the vagina twice daily for seven days.

OR

Clotrimoxazole vaginal pessaries 100 mg to be inserted into the vagina daily at night for six days.

Systemic : Antibiotics such as

Cap. Doxycycline 100 mg. by mouth twice daily for five days.

OR

Tab. Clotrimoxazole 2 tablets by mouth twice daily for seven days.

Though the organisms can also be found in the reproductive organs of the male, he rarely suffers from any symptoms. Thus, it is a silent infection in the male partner. Therefore, if the woman has to be cured, both she and her husband/partner must take the treatment and avoid coitus during the duration of therapy.

Can the infection recur ?

Acute infection can recur if not adequately treated, or, can recur after being cured if re-exposed to the organisms.

What is chronic cervicitis ?

Chronic cervicitis is a response to injury (usually obstetric) or is the residual phase of an infection caused by any organism including a commensal. Various types of organisms can be found normally in the vagina but the Gram positive anaerobic Doderlein's bacillus is usually predominant and keeps the others in check by the production of lactic acid.

What is the appearance of the cervix when there is chronic cervicitis ?

The cervix may appear to be hypertrophied, congested and unhealthy. There is no definite outer border for the congestion and there may be some discharge. Sometimes there are small mucus cysts over the cervix which may be yellow or bluish in colour. These are called Nabothian Follicles. Figure No. 18 on page 18 indicates the appearance of cervix with chronic cervicitis and Nabothian Follicles.

What are the symptoms of chronic cervicitis ?

Chronic cervicitis is one of the important causes of persistent vaginal discharge in women.

What is the treatment of chronic cervicitis ?

The presence of malignancy must be ruled out by cytology, colposcopy and if indicated a biopsy, before treatment such as electrocautery or cryosurgery is undertaken.

What is ectopy of the cervix ?

The extension of columnar epithelial lining of the cervical canal onto the ecto-cervix is called Ectopy.

How does the cervix appear when there is an ectopy ?

An ectopy is seen on the ecto-cervix as a bright red area which is continuous with the endo-cervical canal. The outer edge of this redness will be clearly defined. An ectopy may bleed on touch. Figure Nos. 19, 20, 21, 22 and 23 on pages 19, 20, 21 indicate the appearance of a cervix with an ectopy.

Does an ectopy cause any symptoms ?

An ectopy may cause vaginal discharge or post-coital bleeding, but sometimes there may not be any symptoms.

How is an ectopy treated ?

First, the presence of malignancy must be ruled out by cytology, colposcopy and if indicated by biopsy and, if the condition is symptomatic, then the treatment is by electro-cautery or cryosurgery.

How does the cervix appear when there are obstetric injuries ?

The appearance of the cervix will vary according to the extent of injury. There may be tears which occur all around the cervical opening and give it an irregular appearance but such a cervical appearance is generally classified as normal. Occasionally the tears may be on one or both sides of the cervix when it may appear like the open mouth of a fish – exposing the columnar epithelium – called ectropion.

How are injuries of the cervix treated ?

The patient will need to be referred to a hospital with the necessary facilities.

How does the cervix appear when there is a uterovaginal prolapse with a decubitus ulcer ?

The cervix along with the vagina (which contains the uterus which has followed the cervix) can be seen lying outside the introitus. The most dependent part may be ulcerated - this is called the decubitus ulcer. Occasionally the ulcer may extend onto the vagina.

What is the treatment ?

The treatment is surgical correction or hysterectomy with repair of the pelvic floor, for which the patient will need to be referred to a hospital with facilities for treatment.

How does the cervix appear when there is a benign growth ?

A benign growth of the cervix may appear pale pink or bright red and may be seen protruding out of the cervical canal. The size of the growth may vary from a few millimetres to several centimetres. The surface is usually smooth and is rarely friable and does not usually bleed on touch. Figure No. 24 at page 21 indicates an endo-cervical polyp.

What are the symptoms ?

The condition may be asymptomatic or may be associated with abnormal vaginal discharge and/or bleeding.

What is the treatment ?

The treatment will depend on the site and size of the tumour and the age of the woman and can be undertaken after ruling out the presence of malignancy. The tumour after removal must be submitted to histopathological examination.

How does the cervix appear when it is affected by cancer ?

The cervix may appear normal in the presence of premalignant changes,

carcinoma-in-situ or even early invasive cancer. As invasion progresses the abnormality appears as a growth or an ulcer. Later this increases in size to destroy the entire cervix. Such a cervix is friable and usually bleeds on touch.

There may be discharge which may or may not be foul smelling.

Figure Nos. 25,26,27,28,29 and 30 at pages 22, 23 and 24 are photographs of the cervix destroyed by cancer.

What causes cancer cervix ?

This question has already been answered in Section I. The exact cause is still not known. A virus called the Human Papilloma virus may be one of the causes. Research is in progress to find the cause.

How does cancer cervix start ?

Cancer starts as an abnormal change in the cells of the cervix. These abnormal changes can be seen only with the help of a microscope. Such changes are known as **premalignant** or **precancerous** lesions of the cervix. These changes may not produce any symptoms. Initially they are observed to occupy only a part of the cervical epithelium. Gradually, if not detected and treated, they will progress to involve the entire thickness of the epithelium. This change is called **carcinoma-in-situ**. This condition may be accompanied by abnormal vaginal discharge and/ or bleeding, however occasionally, may be asymptomatic. Carcinoma-in-situ if not detected and treated can, over a variable period of time, progress to invasive cancer.

What are the symptoms of cancer cervix ?

This question has already been answered in Section I of this manual, however since symptoms are so important this set of question - answer is repeated once again.

- **Abnormal vaginal discharge:** continuous, profuse, foul-smelling and blood-stained.
- **Abnormal vaginal bleeding:** post-coital, inter-menstrual, menorrhagia or post-menopausal.
- **Aches:** back, legs, thighs or lower abdomen.
- **Appetite and weight-loss.**

How can the presence of cancer of the cervix be confirmed ?

Cancer of the cervix can be confirmed only by a biopsy of the growth or ulcer. However this should be done in a hospital with facilities for treatment.

How is cancer cervix staged?

The stages as laid down by the International Federation of Obstetricians and Gynaecologists are as follows:

- I Carcinoma is strictly confined to the cervix (extension to the corpus should be disregarded)
- IA Preclinical carcinomas of the cervix, i.e., those diagnosed only by microscopy.
- IAi Minimal microscopically evident stromal invasion.
- IAii Lesions detected microscopically that can be measured. The upper limit of the measurement should not show a depth of invasion of more than 5 mm taken from the base of the epithelium, either surface or glandular, from which it originates; and a second dimension, the horizontal spread, must not exceed 7 mm. Larger lesions should be staged as IB.
- IB Lesions of greater dimensions than stage IA2 regardless of whether seen clinically. Preformed space involvement should not alter the staging but should be specifically recorded so as to determine if it should affect treatment decisions in the future.
- IIA Extends to the upper two-thirds of the vagina.
- IIB Extends to the paracervical tissue.
- IIIA Extends to the lower one-third of the vagina.
- IIIB Pelvic sidewall extension or ureteral obstruction in IVP.
- IVA Bladder or rectal mucosal involvement.
- IVB Distant metastasis.

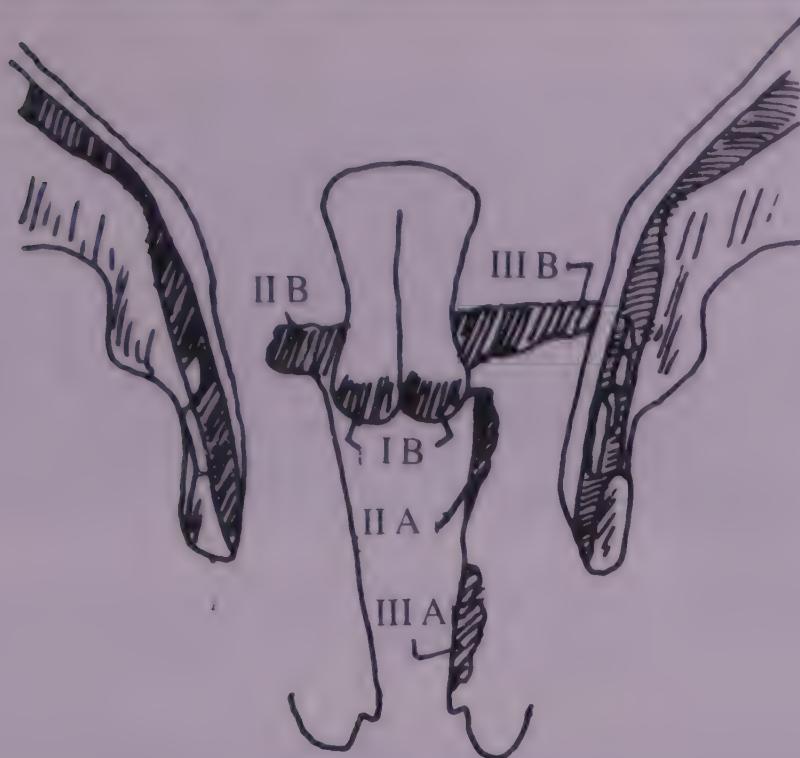


Fig. No. 34. The Stages of Carcinoma of the Cervix

What is the treatment for cancer cervix ?

The treatment of cancer cervix is either surgery, radiotherapy or combinations of both depending upon the stage of the disease – thus it requires a cancer specialist's care.

How can cancer cervix be controlled in India ?

The most effective way to control cancer cervix in India is by :

- imparting health awareness
- conducting prevention and early detection tests
- adequate treatment at the appropriate time.

How can early detection and prevention of cancer cervix be made possible?

This can be made possible by:

- an annual visual inspection of the cervix in women aged between 35 and 64 years and appropriate referral of those in whom the cervix appears to be abnormal or indicates the presence of malignancy.
- the pap smear, (if facilities are available), if repeated every five years, in women aged between 35 and 64 years.

How is the pap smear reported ?

The report of the pap smear is usually given in the following manner :

- Class I Normal smear
- Class II Abnormal cells consistent with benign atypia (non-dysplastic) Inflammatory effect Trichomonas effect viral effect Yeast effect Irradiation effect Atypical metaplasia
- Class III Abnormal cells consistent with dysplasia
Mild dysplasia (CIN I) Moderate dysplasia (CIN II) Severe dysplasia (CIN III)
- Class IV Consistent with in situ squamous carcinoma
- Class V Consistent with Invasive Squamous Carcinoma, Invasive Adeno Carcinoma

What should be done if the Pap smear is reported as –

- **Class I** (considered as normal). Repeat Pap smear after five years.
- **Class II** (indicates the presence of infection). Treatment will depend on the type of infection as indicated earlier at page 36. Both the patient and her partner have to be treated, as otherwise the infection will recur. The pap smear must be repeated after six months and every five years thereafter if the result of the repeat smear is normal. The patient must be referred to an appropriate centre if the repeat smear is reported as Class II.
- **Class III, IV or V** (abnormal/suspicious of malignancy). The patient will need to undergo further tests at a hospital with facilities for the same. The treatment is simple if a precancerous condition or an early cancer is detected when compared to the treatment of advanced disease.

When does the Pap smear have to be repeated?

The smear is to be repeated :

1. immediately:
 - if the smear is not taken properly
2. Normal:
 - after 5 years

3. Infection:

- 6 months after treatment and control of infection and every 5 years thereafter if the result of the repeat smear is normal

Thus the role of the primary health care physician - both the medical officer and the lady medical officer - is of paramount importance in the prevention and early detection of this preventable cancer because they have the responsibility to :

1. train, motivate and supervise the health personnel at the primary health centre and:
 - a. re-examine women referred by the health personnel and confirm their observations,
 - b. refer cases when necessary to a center with facilities for investigation, diagnosis and treatment,
 - c. examine women who come to the primary health centre as a result of health education by the peripheral health workers,
 - d. ensure that the peripheral health worker follows up patients for whom tests were done,
 - e. ensure that attempts are made to convince the noncompliant women to co-operate.
2. perform, in women aged between 35 and 64 years, visual inspection of the cervix annually to assess whether the cervix appears normal, abnormal or malignant and thus help women seek treatment in the early stages of the disease when treatment yields good results
3. refer women in whom the cervix appears to be abnormal, and suspicious of malignancy on visual inspection, to a centre with facilities for investigation, diagnosis and treatment.
4. refer to appropriate centres those women in whom:
 - the speculum cannot be introduced

OR

 - the cervix cannot be visualised and there is no history of hysterectomy.
5. take pap smears in women aged between 35 and 64 years when the facility is available. The interval between the normal smears should be five years.
6. treat patients in whom the pap smear reveals the presence of infection and repeat the smear after six months and at five yearly intervals thereafter if the repeat smear is normal.
7. refer women with pap smear reports of Classes III, IV and V to a centre with facilities for investigation, diagnosis and treatment.

APPENDIX – I

Suggested format for recording the observations on **visual inspection of the cervix** in the Indian Situation.

Name of Institution Organisation
Address

Date of examination

Name of examining personnel

Designation of examining personnel

Place of Examination

Name: Age: Name of Husband / Father / Son :

Address: House No. Road/Street Village :
Hobi Taluk District :

HISTORY

Age of Menarche:

No. of Children:

Menstrual Cycles:

Last Menstrual Period:

Intermenstrual Bleeding:

Post Coital Bleeding:

Post Menopausal Bleeding:

Discharge:

Pruritis genitalia:

Others

Previous visual examination / Smear report

EXAMINATION

Local Examination

Genital Hygiene:

Per Speculum Examination

Appearance of Cervix:

Cervix : Visualised

1. Normal:

: not visualised

2. Abnormal:

- enlargement in size
- redness/congestion
- white patch
- covered with discharge

- distortion in shape or contour
- red area
- irregular surface
- bleeds on touch

Frothy/greenish:

- prolapse of the uterus
- does not appear to be normal but appearance cannot be classified

White and curd-like:

Dirty brown:

Blood stained:

Foul smelling:

3. Suspicious of Malignancy:

irregular growth or ulcer

- friable – fungating – bleeds on touch
- covered with discharge, cannot be classified as normal or abnormal

ADVICE

If Visual Inspection is:

Normal:

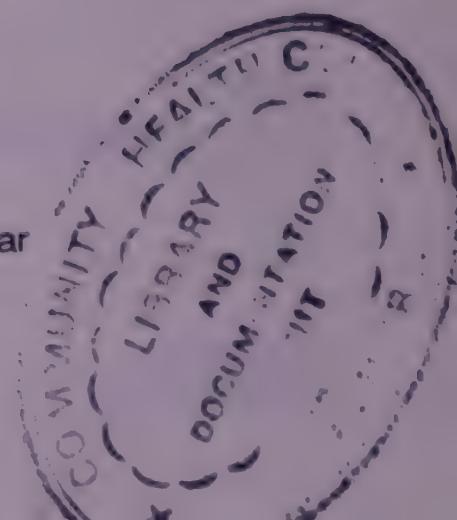
Abnormal or suspicious of malignancy:

Repeat visual inspection after one year

Referred to Primary Health Centre

Referred elsewhere please indicate

SIGNATURE



APPENDIX - II

Suggested format for recording the observations of the visual inspection and pap smear of the cervix in the Indian Situation.

Name of Institution Organisation
Address

Date of examination :

Name of examining personnel :

Designation of examining personnel :

Place of Examination :

Name: Age:

Name of Husband / Father / Son :

Address: House No Road/Street Village :
Habli Taluk District :

HISTORY

Age of Menarche: Age of Marriage:

No. of Children: Contraception:

Last Menstrual Period:

Age of Menopause:

Intermenstrual Bleeding:

Nb Yes Duration

Post Coital Bleeding:

Nb Yes Duration

Post Menopausal Bleeding:

Nb Yes Duration

Discharge:

Nb Yes Duration

Pruritis genitalia:

Nb Yes Duration

Others

Previous visual examination / pap smear

EXAMINATION

Local Examination

Genital Hygiene:

Per Speculum Examination

Appearance of Cervix:

Cervix : Visualised

1. Normal:

: not visualised

2. Abnormal:

- enlargement in size
- redness/congestion
- white patch
- covered with discharge

- distortion in shape or contour
- red area
- irregular surface
- bleeds on touch

Frothy/greenish:

– prolapse of the uterus

White and curd-like:

– does not appear to be normal

Dirty brown:

but appearance cannot be classified

Blood stained:

Foul smelling:

Nb Yes
Slide Numbers :

Pap smear taken :

Suspicious of Malignancy:

No pap smear is taken if visual inspection indicates a cervix –

With an irregular growth or ulcer

- friable – fungating – bleeds on touch
- covered with discharge cannot be classified as normal or abnormal

ADVICE

If Visual Inspection indicates that the cervix is :

Normal:

Repeat visual inspection after one year

Await Cytology report and advice by Physician

Referred to Primary Health Centre

Await Cytology report and advice by Physician

Abnormal:

Suspicious
of malignancy :

Referred to Primary Health Centre
Referred elsewhere please indicate

APPENDIX – III

Suggested format that could be used to refer women to a Referral Centre.

Name of Institution Organisation
Address

Name

Age:

Name of Husband / Father / Son :

Address: House No Road/Street Village :
Hobli Taluk District :

Date of Examination

Place of Examination

Smear taken : Yes No

Date of Last Menstrual Period :

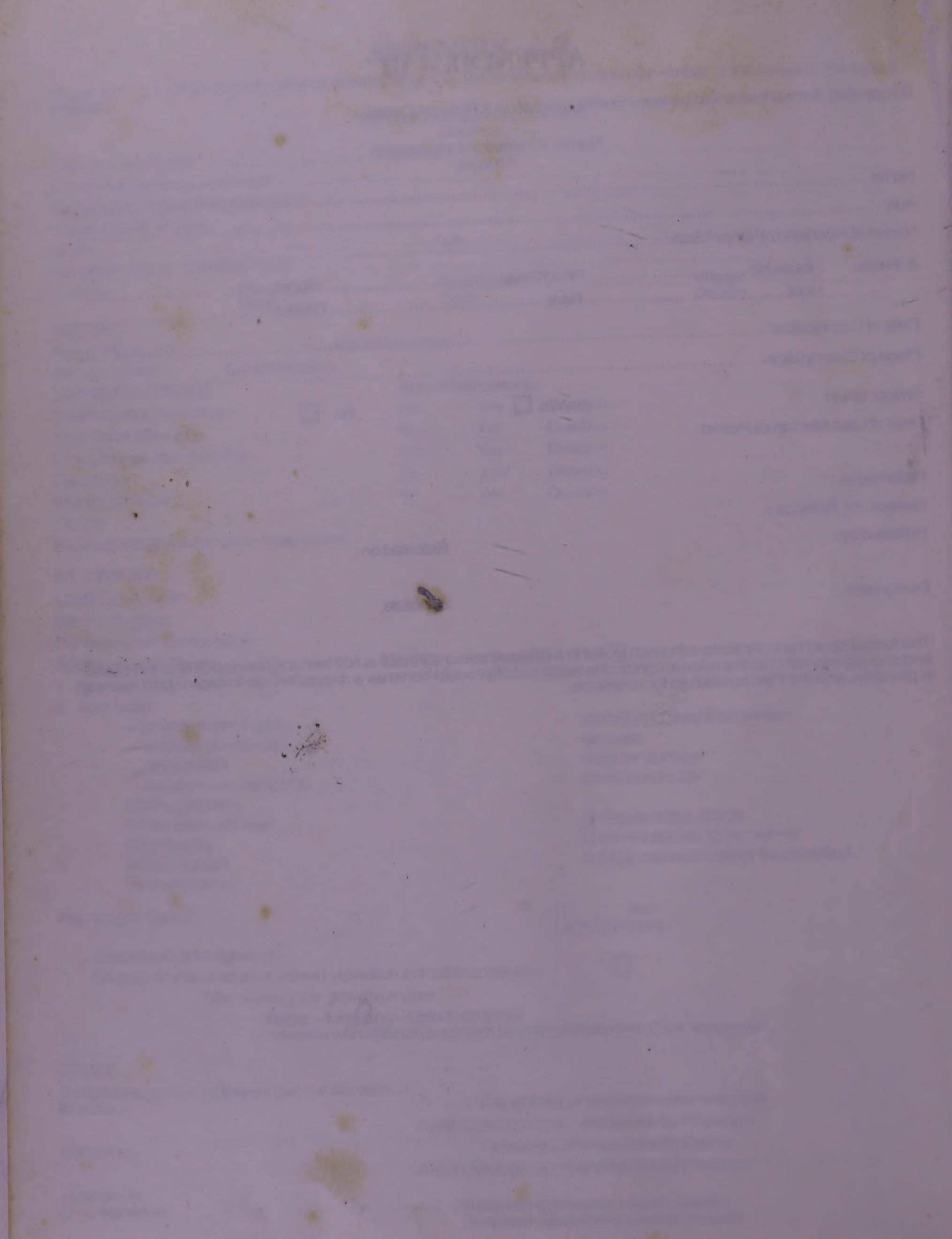
Referred to :

Reason for Referral :

Referred by: Referred on :

Designation : Signature

The format could be in triplicate with each leaflet in a different colour so that the first leaflet is handed over to the patient and she reports with it to the referral centre, the second leaflet could serve as a requisition slip in case cytoscreening is possible, and the third is retained for reference.



Cancer cervix is the most common cancer affecting Indian women. Most of the affected women are aged between 35 and 64 years, come from rural India and seek treatment with advanced disease, the outcome of which is far from satisfactory.

The problems of cancer cervix as perceived at the Department of Gynaecologic Oncology, Kidwai Memorial Institute of Oncology, Bangalore, promoted the experiment of introducing Visual Inspection of the cervix to downstage (early detection of) the disease – a concept suggested for use in developing countries because of the financial implications of introducing Cytology – the internationally accepted method for prevention and early detection. There is no doubt that the existing health infrastructure is the only network through which this programme could be implemented. These endeavours are supported by the Indian Council of Medical Research and the World health Organisation through the Ministry of Health, Government of India.

The material generated to train the health personnel gradually evolved into a training manual. This book attempts to present the techniques for early detection of cancer cervix – both Visual Inspection and Cytoscreening, in a simple user friendly format for the health personnel of the Primary Health Care Infrastructure – to serve not only as a training manual but also as a mini-atlas.

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